

FORESTS



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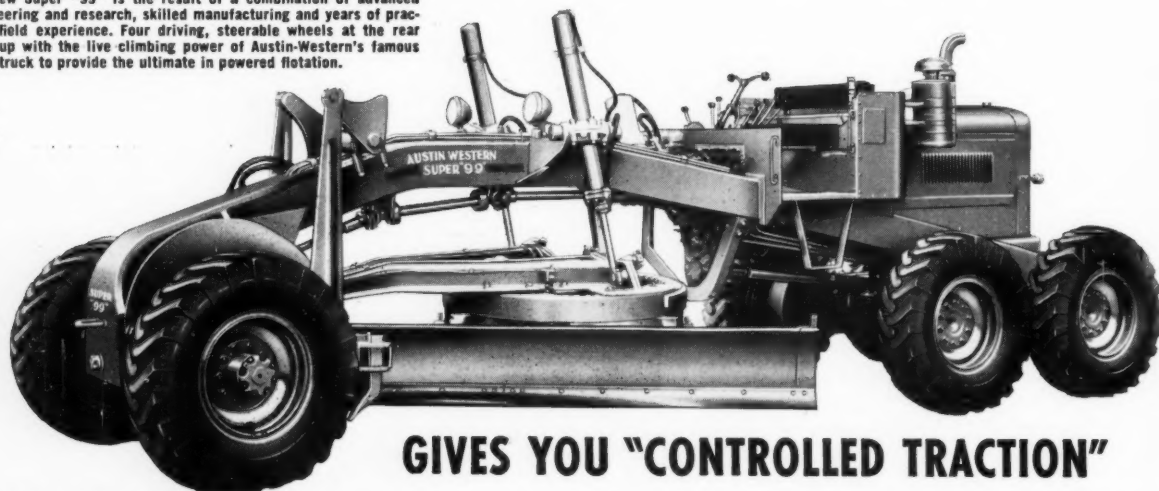


**THESE ARE
THE CHAMPS**

. . . See Pg. 31

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Volume 61

No. 9

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American FORESTS

James B. Craig, Editor

Marian E. Fadeley, Editorial Assistant

James J. Fisher, Art Director

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COVER • Left: California's General Sherman Sequoia, the largest tree in the United States. Right: Louisiana's Champion Live Oak.

THE AFA

The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

Washington Office
Director of Advertising
Fred E. Hornaday
Production Manager
Geraldine S. Kirkland

Chicago Advertising Office
Harry W. Brown
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Andover 3-7093

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San Francisco, 5, California, Yukon 6-0647

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Denver 2, Colorado
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"When next
you see a stump..."

"...When next you see a stump, remember that its tree got that way by becoming part of a house, a church, a dinner napkin, a beautiful dress, a flavoring extract, your favorite newspaper, one of the great magazines which contribute so much to good living, and part of a payroll which contributed to the national well-being..."

William D. Hesch

Public Relations Director, Crown Zellerbach

THE SCENE ABOVE shows new growth replacing old on a Crown Zellerbach Tree Farm. Our scientific forestry program assures us of "trees forever."



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Letters To The Editor

How To Cure Arsonists

EDITOR:

I read with amazement the article in the most recent issue of AMERICAN FORESTS, titled Arson Squad. That in this day there are still people who deliberately and maliciously set fire to forests is phenomenal.

However, there may be a better way to educate them than fines and jail sentences. If the jail sentences were combined with a tree-planting program, and the arsonist required to work out his time by planting as many trees as the fire he set destroyed, he might have a better idea of what his irresponsible action had resulted in. If the method works with delinquent youths, as another article in the same issue maintains, it might be put to work in connection with adult arsonists.

I hope that in the reasonably near future AMERICAN FORESTS will have another article dealing with forestry courses in high schools. There must be some high schools which provide these courses, perhaps in connection with 4H club work. Courses in the high school would reach a great many more youngsters than those in the colleges, and there is plenty of material for their use.

Ruth G. Reichbart
Attorney-at-Law
12 West 69th Street
New York, N. Y.

Nature's United Nations

EDITOR:

The article "Conservation Is Not Enough" in your July issue by Mr. Joseph Wood Krutch was very well put. It brings out the real meaning of "live and let live." However, in permitting his article to be published in a conservation journal Mr. Krutch indicates that conservation CAN be the door that will lead many people to the "morals, ethics, and aesthetic considerations" that he describes in his statement. . . In brief, Mr. Krutch is warning against Animal Man's tendency to decree what other animals shall live or die. As a result, man may one day find himself classified as a predator in Nature's United Nations and may himself be exterminated.

R. C. Johndy
15 Kine Avenue
North Babylon, New York

EDITOR:

We would like to commend your editorial policy in giving space to the work of this American scholar and philosopher who is 100 years ahead of his time. . . We believe that Daniel Boone or any of the pioneers, who "knew America when" would turn over in their graves if they knew of some of the sickening substitutes for hunting and fishing now foisted off upon a gullible public—suckers for the great propaganda mill for big business which recreation has now become.

Henry M. Weber
Commander, Marine Corps, Retired
La Quinta, California

EDITOR:

I have read the article by Mr. Krutch several times to be sure I did not miss any of its message. He expresses a proposition,

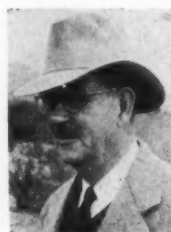
clearly and logically, which I have been trying to say for the past several years. The conclusions arrived at by Mr. Krutch are those which I myself arrived at after studying biology at Kansas State College. "Conservation Is Not Enough" should be read by everyone until it becomes a creed for living. If you printed no other worthwhile articles this year I would still feel under obligation to AMERICAN FORESTS.

Robert W. Ruffle
5117 North 15th Street
East Omaha 10, Nebraska

Look Alikes?



T. R.



Mr. Krutch

EDITOR:

. . . The Krutch article is very, very good in my estimation—one of the finest you have ever published. His message reminds me of T. R. His picture as published in AMERICAN FORESTS also suggests a remarkable physical resemblance.

Carl Colby
Loyal, Wisconsin

Venus Fly Trap

EDITOR:

I read with a great deal of interest the article by Mr. Weldon D. Woodson on the Venus Fly Trap, which is indigenous to certain coastal portions of North Carolina.

As a matter of interest to the readers of your magazine, it should be pointed out that the 1951 Session of the North Carolina General Assembly saw fit to pass an Act to protect this particular plant, mainly through the efforts of the North Carolina Garden Clubs. Certain individuals were collecting these plants in large quantities and taking them north for sale, and members of the Garden Clubs felt that the plant was in danger of becoming extinct.

In order to purchase a plant in North Carolina, a permit must be obtained and the applicant certifies on the permit that the plant or seeds of the plant are to be used for educational or scientific purposes. The State Forester administers the issuing of these permits, and since the Act was passed there have been 88 permits issued. It is felt that the wholesale gathering of this scientifically unique plant has been curtailed, if not stopped.

F. H. Claridge
State Forester
State of North Carolina

Battle of Public Timber

EDITOR:

May I congratulate AMERICAN FORESTS and Mr. James P. Rogers for an excellent report

in his article "The Battle for Public Timber" in the July issue. Mr. Rogers has reviewed the history of the "O & C Problem" in western Oregon and has hit the nail right on the head with his attack on these artificial "marketing areas" and "sustained yield units" which are set up for the benefit of a very few mills.

As a forester I favor sustained yield management of all our forest lands but I cannot agree that a unit of public timber must be set aside for only one buyer when many buyers are in the market for that timber. Such a monopoly will only perpetuate inefficiency and outmoded methods of utilization of our forest crops.

Competition is the life blood of industrial progress. It demands agile and competent management which will constantly improve utilization and manufacturing processes to make the most of the available raw materials. We have seen many mills close down "for lack of timber" in western Oregon. We have often seen new mills built in the same area and usually these have been designed for closer utilization or lower production cost and thereby outbid the older plants at public timber auctions. This has forced some "established mills" to modernize and become competitive, or go out of business, or to seek the protection of marketing area restrictions and sustained yield units.

Our public land management agencies should achieve sustained yield through good forest management with every effort made to increase the yield and harvest from public lands rather than by regulations and controls which restrict competition and prevent development of markets for closer utilization of all forest growth.

Forest inventories need to be brought up to date to give a realistic picture of the wood supply on public lands. Allowable cut limits must be revised to reflect changes in markets and utilization. Harvest can be increased by salvage and by thinnings. We need a positive approach to achieve sustained yield and to increase it. The negative approach of the restricted, planned economy is not the answer to forest management. No one man or agency is wise enough to plan and administer such a program.

These gerrymandered marketing area boundaries certainly are not in the public interest because they restrict bidding and often prevent the most efficient utilization of the timber from public lands. A mill does not bid on a sale because it is located on the wrong side of a line arbitrarily drawn on the map. Its neighbor across the road (but in the right marketing area) may take the sale at the appraised price. In turn, the second mill may saw valuable peelers and leave small pulp logs in the woods because the plants which could use these most efficiently are in a different marketing area.

This is a "phoney" type of sustained yield. I hope The American Forestry Association and people like Mr. Rogers will continue to spotlight this situation until it is corrected.

Verne D. Bronson
Chief Forester
Tree Farm Management Service
Eugene, Oregon

(Turn to page 63)

Washington



Lookout

By ALBERT G. HALL

THE FIRST SESSION OF THE EIGHTY-FOURTH CONGRESS which adjourned August 2 considered a wide variety of legislation relating to forestry and other aspects of natural resource conservation. Very little of the legislation was pushed through to completion, but this Congress will be known among conservationists as the one that accomplished what for many years was considered impossible. It enacted, with a minimum of opposition, a bill pointing the way to the solution of the vexing problem of assuring legitimate miners the right of exploration and claim on public lands while protecting the surface resources from persons who might use the mining laws to bottle-up valuable timberlands or to acquire choice recreational sites. Both the Department of Agriculture and the Department of the Interior are at work, as we go to press, developing regulations and procedures under the new law (Public Law 167). Principal problem still remaining is clearing the record of existing mining claims on which minerals have not been developed in sufficient amount to justify patents, or which have been abandoned or are invalid or dormant. A procedure has been authorized in the new law for review of existing claims, and the Congress has appropriated \$300,000 to the Department of Agriculture to implement the work of the Forest Service in clearing the record on national forests. Some of this fund will doubtless be transferred to the Department of the Interior to pay for its part in the conduct of hearings. So far, no funds have been appropriated for the work on lands under the jurisdiction of the Department of the Interior, although it is anticipated that a supplemental request will be made.

THE OLD TIMBER AND STONE ACT passed in 1787, and under which land and timber on the public domain was sold for \$2.50 an acre during the early development of the West, was repealed by the Congress. Individuals were permitted to acquire 160 acres. Since the authority of the law was discretionary, it had been little-used in recent years.

APPROPRIATIONS FOR FORESTRY REACHED NEW HIGH LEVELS as a result of the Congress' refusal to accept reductions in the budget requests. With the exception of funds for timber access roads on O & C lands under the jurisdiction of the Bureau of Land Management in Oregon, the Congress appropriated at least the budget request for all forestry items, and granted substantial increases in many of them. In the case of the O & C access road request, \$200,000 was pared from the requested \$2,500,000. However, it is likely that increasing pressures for all federal agencies to begin harvesting more of the allowable annual cut in the Northwest, will mean supplemental requests for more access road money.

MUTUAL AID BETWEEN AGENCIES OF THE UNITED STATES AND OTHER AGENCIES and instrumentalities in protection from fire was authorized early in the session in Public Law 46. The purpose of the act was to provide for protection of defense installations. The act applies, however, to any government agency and includes the protection of federal forest lands. It can be used as a basis for reciprocal aid agreements, affecting forests bordering or near the Canadian border, for which no authority formerly existed.

A STUDY OF THE WATER RESOURCES OF ALASKA, with a view to development of projects for conservation, development and utilization, was also authorized. Maximum appropriation in any one year is \$250,000.

THE FIFTIETH ANNIVERSARY OF THE CONSERVATION MOVEMENT, stemming from the first Conference of State Governors, called by President Theodore Roosevelt in May 1907, is the subject of a series of joint resolutions introduced in the House and of a companion measure with 28 sponsors in the Senate. The resolutions call for the establishment of a National Conservation Memorial Commission to prepare and carry out a comprehensive plan for the observance and commemoration of the anniversary and generally to promote among all citizens a realization of the importance of protecting natural resources. In addition to the President and Members of Congress, the commission would include 15 representatives of national nonprofit organizations dedicated to conservation, and 10 citizens at large. Another measure calls for the issuance of a special three-cent commemorative postage stamp.

A MULTIPLE USES OF PUBLIC LANDS COMMISSION is proposed by Senators Magnuson and Jackson of Washington. The commission would be authorized to make a thorough study of the administration of public lands and to report to the President and the Congress its findings and recommendations on: the feasibility and practicability of establishing uniform practices, procedures and policies among the various land management agencies; effective long-range conservation programs; and a program to provide the most effective and beneficial multiple use of public lands. The commission would be made up of representatives of each state and territory, and would be supplemented in each state and territory with an advisory committee.

MULTIPLE-USE OF PUBLIC LANDS, and especially public use of federal lands for purposes of recreation and wildlife development were the subjects of more than a dozen bills introduced in the first session. None of the bills received action, but it is expected that support will be generated for hearings when the Congress reconvenes. The proposals range from those which just establish public use as a policy of the Congress to those which earmark percentages of national forest receipts for public-use developments. Others propose the establishment of fees for public use, with the receipts earmarked for development.

FEDERAL AID TO WILDLIFE RESTORATION was given a boost by passage of S. 756 which authorizes the appropriation of the \$13½ million of accumulated unappropriated receipts from the excise tax on sporting arms and ammunition. Twenty percent of the fund may be appropriated each year, and not more than 30 percent of the total appropriated to any state may be used for wildlife refuge management. With the additional funds available, an expansion of the wildlife refuge program is expected.

MANAGEMENT OF THE NATIONAL FORESTS AND THEIR RESOURCES is stressed in the new bill H.R. 7118 introduced by Representative Hope of Kansas. The short title of the proposed legislation is "The National Forest Timber Management Act." It repeals the organization act of 1897 which was for the purpose of "preserving the living and growing timber and promoting the younger growth . . ." The multiple-use concept would also be given legislative status in a requirement that the national forests be administered with consideration "to the application of coordinated use and conservation to all resources of the lands to which the Act applies and the products thereof including water, timber, recreation and scenic values, forage, fish and wildlife, and minerals." The bill brings together in one piece of legislation all the authority for national forest management and includes policies and practices which have developed over the years in Forest Service regulations. Introduced late in the session, the bill received no action. It is expected to be the subject of hearings during the second session.

OTHER MEASURES STILL PENDING as the session closed include a Senate-passed bill to strengthen and extend the Water Pollution Control Act, a House-passed bill to permit the Secretary of the Interior to establish public recreation facilities in Alaska, and a Senate-passed measure to permit Forest Service purchase of the Aztec Land and Cattle Company lands in Arizona.

THE FIFTH SESSION OF THE LATIN AMERICAN FORESTRY COMMISSION of the Food and Agriculture Organization, United Nations, is scheduled for Caracas, Venezuela, October 4-5. This commission is one of considerable interest to the United States, and while an official U.S. delegation has not yet been announced it is expected that government, industry and education will be well represented.

EDITORIAL

Right Tool at the Right Time

Judging by their comments, AFA members are more impressed by the enactment of Public Law 167 than any similar conservation measure in years. The fact that the way is suddenly cleared whereby previously untouchable and stagnating timber on countless mining claims can now be placed under sound management is exerting great appeal. So is the fact that President Eisenhower affixed his name to the new reform law in the rarified and somewhat more hopeful atmosphere of the Geneva peace conference. (See story, page 61.)

Apparently a majority of members are in complete accord with the President's comment that "... this is one of the most important conservation measures affecting public lands that has been enacted in many years." Some go further. Writes one long-time member, "... There is a dramatic quality to the whole procedure—the initial AFA conference called by Lowell Besley, the follow through in Congress, and the final signing of the law at Geneva—that has a sweep to it reminiscent of the days of Teddy Roosevelt." Another writes, "... In view of the present uranium claims situation, this bill may go down in history as one of the most timely in the whole epic of public lands forestry."

Not everyone is completely satisfied with the new law, of course. One segment that might be called the "it's good as far as it goes" school firmly believes that mining patents are obsolete carry-overs from a bygone age and should be discontinued in favor of a leasing system. "Why," asks one member, "should miners be given the luxury of owning land on national forests any more than ranchers, lumbermen or recreationists? Minerals are not even renewable. When a mine is worked out the miner has no further use for it. Why should he own the land in fee simple? The obvious answer here is a workable leasing system."

All of the arguments of the "it's good as far as it goes" school have been heard before and they will doubtless be heard again. Regardless of the merits of their case, members of this school of thought must concede that in Public Law 167 land managers have been handed a workable tool that will enable them to remove critical roadblocks that have been impeding the entire public lands management pattern. What's even more important, they have that tool NOW—at a time when claims filed, including the new rash of uranium claims, are accumulating at the rate of 5,000 a month.

We believe that in Public Law 167 the Congress forged the right tool at the right time. As the Forest Service has long recognized, the claims situation on the forests is in a mess. Remedial measures were required—and quickly. Given solid backing from a wide cross section of groups and organizations, Congress came through in handsome style. And it deserves our accolade for its prompt action.

Go To The Land

Former newspaperman Clint Davis, the new I & E Chief of the Forest Service, was busy getting ready to take a group of Congressmen on a national forests inspection trip when he stopped long enough to assign an important article on southern forestry to a Forest Service writer. In discussing the matter with the writer, an intelligent individual, the fact gradually dawned on Davis that the man's ideas seemed somewhat academic—actually that there appeared to be wide gaps in his realization of what was going on.

"How long has it been since you've been in the South?" Southerner Davis suddenly shot at the writer.

"Eighteen years," the writer replied.

This particular writer is now happily embarked on a three weeks inspection trip of the area he's going to write about. And high time too, Gifford Pinchot and other early forestry leaders who believed in going to the land for all answers would probably snort. At the same time, one wonders how many other government writers, sitting in their various ivory towers, are busily engaged in grinding out stories, releases and speeches on places and things they haven't seen at first hand since World War II or before or perhaps ever.

This is a disquieting thought. If the practice is at all widespread, is it any wonder people in private life are sometimes critical of releases by government agencies and the agencies themselves. In some cases, the word "critical" has been an understatement. We recall one irate wood industry leader who stabbed at an Agriculture Department release until he punched a hole through it. We recall another who actually stamped up and down on one particularly offensive release until he ground it into raw pulp.

Most of us have heard people in private life level grim and usually unsubstantiated charges against individuals in various government agencies, which outbreaks were generally provoked by releases. Unhappily, the unsubstantiated charge seems to be the custom of our times. In view of Mr. Davis' interesting disclosure, however, we suggest that many of the incidents that have drawn fire in the past may merely have been cases of releases by writers who simply did not know what they were talking about.

In any event, we think old newspaperman Davis is on the right track in sending his writers out to the land. Most writers are conscientious craftsmen. But they shouldn't be expected to rely solely on books and similar second hand information for their material. Books on forestry especially are suspect in this connection. The trees quickly outstrip them.

"Go to the land for your answers" old timers in the Forest Service always urged. To which good advice Information Officer Davis adds "Get it right and make it bright." To which we add a hearty "Amen."

The modern grand piano is a finely-made precision instrument, requiring 12,000 parts and the skills of 400 workmen

The Romance of Making Pianos

By AUBREY B. HAINES



Stringing a piano requires concentration and skill



TODAY the piano is so commonplace that everybody takes it for granted. But this was not always the case. When pianos were first made, they were the occasion for elaborate festivities.

It is difficult to say just how the piano began. Some say that it was when an ancient hunter admired the twang of his bow string as the arrow went winging its way through space. Then he decided to plunge the taut strings into gourds and make the sound even louder. Others hold that it was when man added hammers to strike those strings. However, the first real ancestor of the piano was born in Padua, Italy, in the mind of

AMERICAN FORESTS

Bartolommeo Cristofori early in the eighteenth century.

With the passing of the years heavier demands were made upon the instrument, for music was developing with greater complexity, and the players were becoming more and more skillful. At the outset pianists and audiences alike complained at having to wait in the middle of a concert for the piano to be tuned again. But the instrument could not do any better under the circumstances, having a wooden frame. The fact was that it could not hold against the pull of the strings. Later, pianos were given a metal frame, more elastic strings, and firmer pins. Then they were able to hold those strings in tune right through the concert.

Looking back on the first pianos in the eighteenth century reminds one that those were glorious days. For then the purchase of an instrument was an event to families and friends. With the completion of a new piano everyone was delirious with joy. Indeed it was the occasion for a celebration. The long weary months of making the instrument by hand were at an end, and the workers believed in celebrating the event in a worthy manner.

So they put the piano on a flower-banked wagon drawn by horses spangled with blossoms. A fine band led the procession, blaring forth victorious tunes, followed by the piano. Then the maker—"the man of the hour"—came next in the procession. Usually he was carried on the shoulders of his apprentices. Behind them came the musicians and other persons of importance in the community. Triumphant the parade made its way to the home of the new owner, where another joyful group awaited their arrival. The minister prayed, blessing the new instrument. The head officer of the town made a speech. The druggist and others of importance also spoke, and a chorus of people sang. Then the piano was carried into its new home while the band played gaily. Even after it was set in place, the people continued the celebration with dancing and a dinner.

Such festivities today would seem naive, but modern manufacturing methods have taken away much of the tedium and the uncertain results of two centuries ago. The modern piano is a veritable feat of engineering skill. Nevertheless, much hand work is required on it yet, and individual planning is still involved.

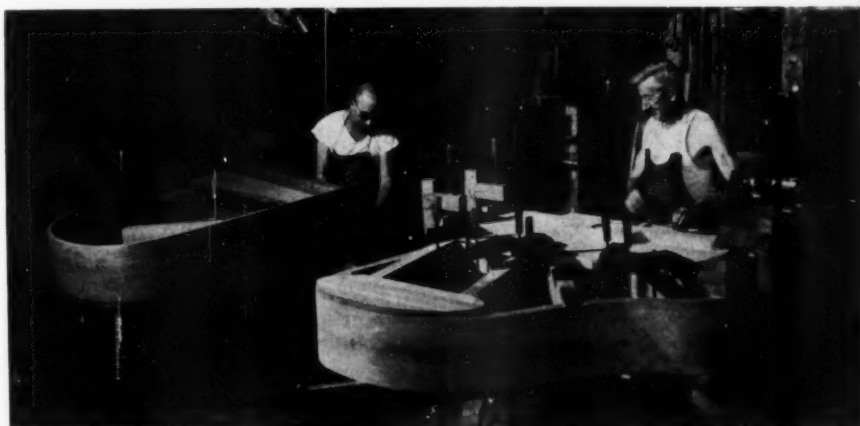
The importer and manufacturer of today spare no expense and effort to assemble the various materials which make up the piano from the far places of the planet. Far from civilization the importer travels to the jungles of India and of Africa to trade with the natives who have risked their lives in hunting and trapping the elephant for his ivory tusks. Every pair of tusks that comes to the market represents one elephant but not necessarily a slain or a recently killed one as you may suppose. The best grade of ivory is found around Loango, Gabun, Cameroon, and Ambriz in Africa.

The importer dickers with the natives till he has obtained his supply, which must be of the finest grade. Then on the backs of natives it is carried to the nearest river, transported in a primitive canoe to the sea, where it is loaded onto an ocean going ship and brought to the east

The importer must go to South America for ebony wood for the black keys and for beautifully figured mahogany and other special woods from which to make veneers for the piano cases. The West Indies and Central America are also contributors of mahogany. Santo Domingo mahogany is considered best for piano veneers. American black walnut is also used extensively for piano cases. While veneer is made from all cuttings, knots, forks, stumps, and burls are preferred in order to obtain the gnarled effects. From the forests of our American Northwest come the hardwoods for other parts, spruce pine for the sounding boards, and a light, fine grained pine known as key pine for the piano keys.

The smelter, the iron foundry, and the steel mill are called upon to furnish their quota of screws, nuts, bolts, hinges, pedals, and cast-iron

Curved casing of a grand piano is not made from a single piece of wood, but formed by layers of thin, smooth sheets of maple



coast of America. Here ivory cutting plants are located, a large one in Ivoryton, Connecticut.

Another trip takes the importer to Germany. There in the highlands of Saxony he finds shepherds tending their sheep, from which comes the finest grade of wool needed to make felt for piano hammers and other felts for piano actions. From here the wool is shipped in huge quantities to large felt mills in the United States, where it is washed, carded, and pressed into felts. A single fiber of Saxony wool contains from 2,700 to 2,800 serrations in one inch. This makes it superior for felting purposes. In all, more than fifty different kinds or grades of felt are needed in piano actions.

plate as well as steel wire for the piano strings. The wire ranges in size from gauge twelve to thirty. The massive bass strings are made by winding the larger gauge strings with copper wire of various thicknesses.

The hunter who goes out into the forests or the mountains in the fall in search of native deer and brings back a ten point buck contributes his share to piano making, too. For buckskin is an important material in making piano actions. The varnish, stain, and lacquer manufacturer is called upon to furnish materials for finishing the case. And we must not forget old Dobbin, who perhaps has spent his final days as a dray horse and has a part in making of the glue

which holds the many piano parts together.

You may be surprised to learn that the piano is put together largely with glue. Few people realize the expert work involved in the manufacture of the piano, which is after all a precision instrument. The piano must stand up under many hours of constant practice, varying kinds of touch, the climates of many lands, and the temperatures of the

needed in matching the grains for strength and resonance qualities, followed by the gluing, bending, and finishing processes.

To a visitor in a fine piano factory the most surprising thing is the precision with which wood may be worked after it has been properly selected and seasoned. Did you ever wonder how a curved outside case is made for a concert grand piano? Actually it is not a single piece of



Lumber is the primary raw material of pianos, and great skill is needed to match the grains for strength and resonance qualities

various changing seasons.

Lumber is the prime raw material in every instrument. Fifty per cent of the value of the material used in making a grand piano is lumber and veneers. The better manufacturers demand the right to pick by hand each piece of lumber which goes into their instruments. However, selection is merely the first step, for the wood must then be seasoned properly before use. The lumber is piled outdoors in a slanting position on concrete blocks with "stickers" between layers. The slant enables the water to run off, and the "stickers" provide space between layers for air circulation. It requires from two to three years to season the lumber in the open air till it has a moisture content of approximately thirteen per cent. Two more years are needed indoors besides drying in patented humidity kilns, which turn out a wood with humidity of six to eight per cent. Then the greatest skill is

massive wood. It is built up of layer after layer of thin, smooth sheets of maple and dramatically bent dry around a master frame. The mahogany or walnut outside is just a thin veneer.

Twelve thousand parts go into the half-ton bulk of an eight-foot grand piano! Most of them are tiny, complicated, precision-turned bits of wood. These make up the action that transmits motion from key to hammer and seems like a Rube Goldberg affair. These parts must interact perfectly and endure endless abuse. To achieve this combination tens of thousands of minute adjustments are first made on each instrument. Then a husky, muscular man takes a felt-padded stick and crashes it down with all his strength on each of the eighty-eight keys in turn. All broken bits are fished out and replaced, and again he bangs down until nothing cracks and the piano is capable of remaining in adjustment.

The elite among the piano makers are the tone regulators. They harden or soften each hammer felt so that when it strikes the strings, the desired balance between fullness of tone and brilliance is achieved. Slowly the regulator tests the tonal quality of each note. If dissatisfied, he can send the piano back to the point in the line where some imperfection cropped up. A good tone regulator spends decades in attaining his perfect ear. Even eminent pianists such as the late Rachmaninoff and Paderewski frankly admitted that their ears were not up to the job.

Because so many of the delicate, intricate hand operations that go into the making of an expensive grand piano demand slow, careful training, a firm is fortunate to have a corps of old, highly-skilled craftsmen. In the Steinway factory in New York, for instance, twenty-four of its 700 employees have been with the firm for fifty years or more. Over 100 are at least twenty-five-year men.

Excellent craftsmen, however, are helpless without fine materials. At any given time a constant 2,000,000 board feet of maple, sugar pine, mountain spruce, rosewood, poplar, mahogany, and walnut are undergoing the weathering required of all good piano lumber. Half of the wood may be thrown out at the last inspection due to not having stood up to rigid standards and tests. The rest is kiln-dried, boiled in oil, glued in plies, bent under tons of pressure, turned, hand-carved, sanded, lacquered, and persuaded in a dozen other ways to contribute strength, richness, and spirit to the thin plinking sound of the steel wires.

Few continually used instruments last as long as a piano. Outside of dusting and tuning most owners seem to figure that the instrument will get along by itself. While this is true, piano manufacturers wish that people would take better care of their pianos than they do. They recommend tuning a minimum of three times annually. The keyboard cover should be left open, for ivory is inclined to yellow in the dark. The top, however, should be closed to keep out dust. Moths are a dangerous enemy. Therefore, manufacturers recommend frequent outside cleaning and placing of moth killers near the felts.

Americans today buy 100,000 pianos annually, and piano makers garner \$90,000,000 a year from piano
(Turn to page 58)

There's a smell of money in the South today. A new industrial empire is in the making with more jobs and fatter paychecks. Trees are its chief prop.

The Southland Revisited

By ERLE KAUFFMAN

PART II

IF ELDREDGE, elder statesman of southern forestry, whose remarkable career has bridged the span from business-minded timber grower to researcher, has a practical explanation for the rapid gains forestry is making in the South.

"The economic climate has become warm and favorable," he points out. "The profit incentive to grow timber is here."

To illustrate, Mr. Eldredge, who is former director of the Southern Forest Survey, recalls that the timber owner or grower of twenty years ago had a difficult time marketing sawtimber for \$4 a thousand feet—timber that today finds ready buyers at \$25 a thousand in most sections of the South. Pulpwood values have increased even more dramatically. In 1936, the best a farmer or timber grower could expect for his wood was 75 cents a cord on the stump. Today, he can demand any-

where from \$4 to \$6 — and stand a good chance of getting it.

This, of course, is over-simplification. Reflected here is the dynamic role the forest industries are playing in the South-wide economic revival—a revival that is transforming a once predominantly agricultural region into an industrial empire of vast proportions. Here, too, are to be found the fruits of research and a quarter century of campaigning in the field of forestry education. There are other factors, to be sure, but the major contributions to forestry's upsurge in the South have stemmed from these basic three: new and improved methods, an informed people and a favorable economic climate.

Mr. Eldredge, of course, has this in mind when he talks about incentive to grow timber. The Forest Survey of the early thirties brought out the fact, astonishing to many, that the South, written off as "exhausted" in the books of the big timbermen, had, to quote Mr. Eldredge, "a new and

lusty crop of young timber" coming on, much of it already sawtimber size, and all of it increasing rapidly in volume and acreage.

"Publication of these findings," the former Survey director recalls, "plus the widely publicised experiments of Dr. Charles H. Herty in the use of southern pine in paper manufacture, attracted the immediate attention of northern pulp and paper men."

As a result, the favorable economic climate the South needed soon was in the making. By 1939, more than 40 pulp and paper mills were operating there creating a new annual market for nearly five million cords of wood. By 1953, the number of mills had increased to 64—and the demand for pulpwood had jumped to 16 million cords annually.

Meanwhile, lumber production in the South, which had dropped to a low of four billion board feet in 1932, only to rally under a pre-war economy in 1939 to 10 billion feet,

Wood is the rock on which the South's tree economy rests. And it is renewable



held steadily above this figure—from a high of 16 billion feet in 1942 to 11 billion in 1953.

Perhaps a more revealing picture of the size and importance of this economy so favorable to forestry is in the dollar and cents value of forest industry products manufactured in the region, which is now approaching the \$6 billion mark—with forecasts pointing to a still more dynamic figure.

But even this fails to portray the real extent of its influence on the fast changing southern scene. Rayon textiles, the fields of transportation and communication, the mining and chemical industries, the building and printing trades are graphic examples of major contributors to the South's new wealth which depend in varying degree, directly or indirectly, upon wood and wood products. The railroads, for instance, in addition to

being heavy users of lumber and crossties, enjoy an annual revenue considerably in excess of \$100 million for hauling products of the southern forest—tonnage which now is 60 percent greater than that for agricultural products.

Another way of looking at this favorable climate is through the pay checks, which now total \$2 billion a year, of better than half a million forest industry workers—one out of

THE SOUTH'S COMMERCIAL FOREST

State	Area ¹ and % of Total Land Area in State (Acres)	Ownership ² Farm and Other Private, non-farm, and public (Acres)	Annual Harvest ³		Employment ⁴ Provided and % of all Manufacturing Industry (Number)	Income ⁵ Forest Ind. and % of all Manufacturing Industry Inc. (Dollars)	Value ⁶ Forest Industry Products and % of Total Value Manufactured Products (Dollars)
Alabama	18,800,000 58%	7,000,000 10,800,000 1,000,000	1,470,000,000	1,800,000	50,000 21%	\$152,000,000 17%	\$417,000,000 15%
Arkansas	19,400,000 57%	5,600,000 10,900,000 2,900,000	950,000,000 (Including Oklahoma)	800,000	37,000 41%	123,000,000 42%	285,000,000 31%
Florida	21,500,000 67%	5,800,000 13,400,000 2,500,000	534,000,000 ³	1,700,000	41,000 36%	165,000,000 32%	348,000,000 27%
Georgia	21,100,000 66%	9,700,000 10,100,000 1,300,000	2,100,000,000 ⁷	3,100,000	52,000 17%	190,000,000 18%	592,000,000 15%
Louisiana	16,200,000 56%	3,000,000 12,100,000 1,000,000	800,000,000	1,500,000	52,000 32%	217,000,000 26%	582,000,000 19%
Mississippi	16,500,000 54%	7,000,000 7,800,000 1,700,000	825,000,000	2,000,000	42,000 42%	133,000,000 41%	353,000,000 31%
N. Carolina	18,500,000 60%	7,200,000 9,500,000 1,600,000	1,800,000,000	1,500,000	79,000 18%	255,000,000 16%	773,000,000 12%
Oklahoma	4,300,000 24%	800,000 2,900,000 600,000	(combined with Arkansas)	30,000	6,000 7%	18,000,000 4%	65,000,000 4%
S. Carolina	12,000,000 62%	6,400,000 4,700,000 900,000	1,000,000,000	1,300,000	34,000 15%	97,000,000 13%	349,000,000 13%
Tennessee	12,300,000 46%	5,900,000 5,400,000 1,100,000	563,000,000	240,000	43,000 15%	119,000,000 11%	291,000,000 9%
Texas	10,800,000 22%	2,900,000 7,200,000 700,000	740,000,000	1,100,000	49,000 11%	231,000,000 8%	537,000,000 5%
Virginia	14,400,000 58%	7,600,000 5,200,000 1,600,000	1,140,000,000	1,300,000	51,000 20%	187,000,000 17%	551,000,000 13%
Total South	185,800,000	185,800,000 68,900,000 100,000,000 16,900,000	11,300,000,000 ⁸	16,300,000	536,000	\$1,814,000,000	\$5,143,000,000
			Farm Non-farm Public				

¹U. S. Forest Service Reappraisal Report.

²U. S. Forest Service Reappraisal Report.

³Lumber 1953 estimates except Florida, 1947. Pulpwood 1954.

⁴For 1952.

⁵For 1952.

⁶For 1952.

⁷1952 estimate; 1953 estimate not available.

⁸This figure represents total estimate for region on basis of sample survey in 8 states: it is not the total of state figures shown.

Sources: U. S. Forest Service, U. S. Bureau of Census, National Lumber Manufacturers Association, American Forest Products Industries, Manufacturers Record, and the various state forestry agencies concerned.

every five manufacturing industry workers in the South. Other thousands derive income from the wood dependent businesses and industries. And more and more farmers are adding more and more dollars to their incomes each year from the harvest of pulpwood and other wood products.

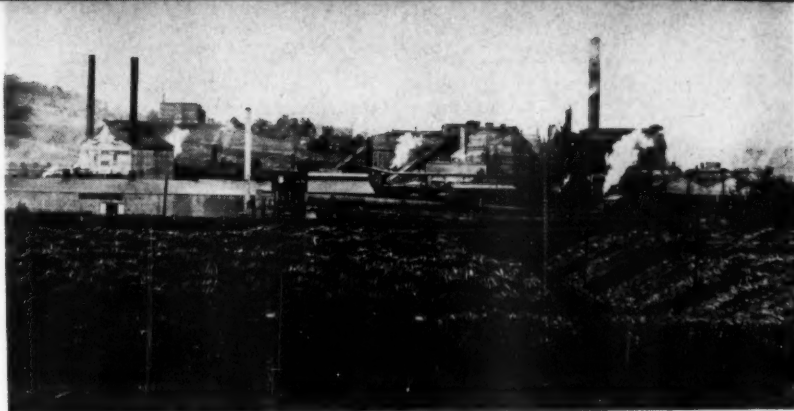
Last year, for example, 70 percent of the 16 million cords of pulpwood produced in the South originated on farm woodlands and other small forest properties.

The lumber industry, said to be the oldest in America, dating back to 1608 and the Jamestown Colony in Virginia, and which reached its peak in 1909 with a cut of 21 billion board feet, still takes most of its timber from commercial forest land that is privately owned—a third of it by farmers.

Unquestionably, the profit incentive to grow timber is alive and astir in the South. Cold figures bear this out. But the role of education in conditioning the region for its economic opportunities in forestry does not lend itself to slide rule equations. Education is the human side of the statistic—its brain and its bloodstream.

For an appraisal of its accomplishments you must look to the political attitude, as reflected in the adequacy of laws relating to such basic forestry problems as protection, management and taxation. Or to public opinion, as reflected in public spending, in the tone and effectiveness of policies and programs to serve the best interests of forests and their products. Or to the community spirit of cooperative effort, as reflected in organized fire protection, in industry-landowner teamwork, in federal-state relations. You can also look to youth, and the growing legion of future tree growers and wood product consumers who have a realistic understanding of forest values.

A quarter century ago The American Forestry Association was one of the first to take an objective look at youth—the youth of the South. Its Southern Forestry Educational Project, designed to strike at the heart of the region's number one problem, woods burning, by carrying it into the schools and homes of the rural people, left its mark on millions of children, as well as adults, throughout the length and breadth of the piney woods. The operation of the Project and early reports on what it accomplished were covered in the August issue. But up until now, no one has followed in the footsteps of



AFPI Photo

Most of the pulpwood in this yard was purchased from farm woodlot owners. Southern farmers are learning that money does grow on trees

its crusading educators through the Project states of Florida, Georgia, Mississippi and South Carolina to appraise the gains made under the stimulus of expanding knowledge and "a warm and favorable economic climate."

This is not to suggest that forestry's advances in these states have been powered by the Southern Project—or by any other single agency or effort. Education is everybody's business in the South, and the programs of industry, the federal and state agencies and the various state and regional associations have for

the most part been well conceived, well financed and effective. Accomplishments, particularly with Future Farmer and 4-H groups, and in service to both landowners and management, have been outstanding.

But the Southern Project was the first, and certainly the most concentrated effort to be directed against southern woods burning. In the words of Harry Lee Baker, Florida's first state forester and one of the Project's key planners, "it pried things loose and got the state started on the right road."

Taking note of the recent action

STATE FORESTRY PERSONNEL

For the four cooperating states in Southern Educational Project

State	1928	1935	1945	1955
FLORIDA				
Total Number of Permanent Employees	10	95	360	650
Number of Professional Foresters	5	6	13	34
GEORGIA				
Total Number of Permanent Employees	27	18	169	656
Number of Professional Foresters	6	10	13	61
MISSISSIPPI				
Total Number of Permanent Employees	9	16	80	217
Number of Professional Foresters	2	5	3	20
SOUTH CAROLINA				
Total Number of Permanent Employees	1	70	227	463
Number of Professional Foresters	1	5	11	39

AREAS UNDER FIRE PROTECTION

For the four cooperating states in Southern Educational Project (In Acres)

State	1928	1935	1945	1955
Florida	670,300	1,542,200	5,539,600	14,067,800
Georgia	996,800	3,274,900	6,388,200	20,850,700
Mississippi	500,000	3,214,300	4,659,000	13,187,000
South Carolina	195,000	1,750,000	8,253,700	11,942,600

of the Florida legislature in supporting a record appropriation for forestry, Mr. Baker, now retired and living in Jacksonville, makes this observation:

"It could well be that current interest of our legislators in forestry problems is founded in experiences they had when they were in school. Many of them were students when the Southern Project was active in the state—and I suspect that whenever forestry matters arise now their minds go back to the early days and the young foresters who came to their schoolhouse to talk about trees.

"The same reasoning applies to judges and jurors of today who are sympathetic toward the enforcement

1954. Of 80-odd prominent citizens interviewed, mostly community leaders of an age level that would put them in school during the Project years, he found that (1) without exception all were moderately well informed on local forestry matters, that (2) the peak of their interest centered around fire protection and (3) that among those who had lived in their localities for 25 years or more, three out of five had developed a first interest in forestry while in school.

Another state forester of the 1928-1931 period, Fred B. Merrill of Mississippi, who is now a consulting forester at Clinton, Louisiana, was equally definite in his appraisal of

trailblazing they did in 1928?

"We were charged with carrying the idea of fire prevention to the people who burned the woods—and we did," is the way Henry D. Story, Jr., one of the original Dixie Crusaders who now is chief of forest management for the Louisiana State Forestry Commission, summed it up. "We may not have stopped a single man from burning the woods the day after we talked with him—that was not our mission. But we did sow seed—the first seeds of forest fire prevention over a wide southern area."

James B. Lattay, who directed one of the units in South Carolina, and who now is vice president of the Reigel Woodlands Corporation at Bolton, North Carolina, believes today that one of the most worthwhile phases of the Project was that it served as a proving ground for education.

For example, in areas that received but one visit from the mobile units, Mr. Lattay recalls, "the majority of people were impressed, but as I look back now, I do not think for long. On the other hand, when the visit was repeated several times, we could show positive results."

These are points of view—and significant ones. But they do not disclose how far up the road of progress the states of Florida, Georgia, Mississippi and South Carolina have traveled since 1928. Only the record book of accomplishment will reveal this.

Covering the span from 1928, when the Southern Project was launched up to the present year of 1955, here are the highlights:

Florida has expanded its area under fire protection from 670,000 acres to 14 million, or 70 percent of the state's total forest area. On these lands the area burned has been reduced from 8 percent to 3 percent.

State expenditures for forestry have been upped from \$15,000 to \$2.5 million annually.

Currently, 650 state employees are engaged in forestry, including 34 professional foresters. This is an increase from the 1928 record of 34 employees, 5 foresters.

Area in state forests has zoomed from zero to 193,000 acres.

Industrially, Florida has 11 pulp-mills, as against none in 1928. Total value of forest industry products has increased from \$74 million to \$368 million in 1953, latest year of record. Lumber increased from \$54 million to \$62 million, pulpwood from \$3 million (in 1935) to \$228 million.

STATE EXPENDITURES FOR FORESTRY

For the four cooperating states in Southern Educational Project

State	1928	1935	1945	1955**
FLORIDA				
State Funds	\$12,500	\$ 44,000	\$300,000	\$ 981,500
County, Federal, Other*	2,880	122,000	546,600	1,493,700
Total Expenditures	\$15,380	\$166,000	\$845,600	\$2,474,200
GEORGIA				
State Funds	\$18,360	\$ 26,000	\$118,410	\$1,981,000
County, Federal, Other*	51,170	45,550	313,960	1,419,000
Total Expenditures	\$69,530	\$ 71,550	\$432,370	\$3,400,000
MISSISSIPPI				
State Funds	\$ 5,000	\$ 13,310	\$125,000	\$ 825,000
County, Federal, Other*	14,920	33,700	205,500	675,000
Total Expenditure	\$19,920	\$ 47,010	\$330,500	\$1,500,000
SOUTH CAROLINA				
State Funds	\$ 4,000	\$ 13,000	\$223,400	\$1,088,400
County, Federal, Other*	3,940	58,950	351,100	360,400
Total Expenditures	\$ 7,940	\$ 71,950	\$574,500	\$1,448,800

*Includes federal, county, private and other funds.

**In some instances, figures are estimated.

of forest fire laws. It applies to county commissioners, to teachers, editors, landowners, industrial leaders and the vast majority of members in civic organizations who support measures designed to prevent and control woods fires.

"The sustained educational efforts of all forest agencies have been tremendously effective. But we must recognize that the Southern Project was the first to focus attention on the South's critical forest fire problem and to awaken interest in doing something about it."

Mr. Baker's observation is unusually interesting in the light of this writer's findings during his return to the four Project states in

the Project's worth. "No single factor advanced forestry in Mississippi more than this one," he said, "outside of perhaps, state and federal appropriations. But then the Southern Project played an important role in bringing these to an effective level."

These samples of present day appraisals reflect the general tone of several dozen the writer has assembled from men who witnessed the Project in action and who have been in close touch with the southern scene ever since.

But what about the men who did the job—the young foresters who manned the mobile educational units, the Dixie Crusaders? What is their reaction in 1955 to the dramatic

Georgia had a million acres under fire protection in 1928—today it has 21 million, 90 percent of its total forest area. Only one percent of this vast area burned in 1954, the latest figure.

State expenditures for forestry today are at a record \$3.4 million, \$2 million of which is appropriated by the state. In 1928, state expenditures were \$70,000.

Currently, 656 state employees are engaged in forestry, 61 professional foresters. The score in 1928 was 27 employees, including 6 foresters.

Area in state forests has increased from 160 acres to 39,000.

Industrially, Georgia has 10 pulp mills, an increase of 5 from 1945. In 1955 there were approximately 2,800 sawmills in the state. Total value of forest industry products in 1955 is estimated at \$750 million, as compared to \$250 million in 1945. No recent figures on separate lumber and pulpwood values—but in 1950, lumber's value was \$156 million, pulpwood \$213 million. Other principal users of wood in 1950 were veneer and cooperage, \$55 million, furniture, \$28 million. Naval stores accounted for \$55 million.

Mississippi now has 13 million acres under fire protection, or 75 percent of its forest area. In 1928, the protected area was 500,000 acres. With the tremendous upsurge in area under protection, State Forester James W. Craig reports that the total number of fires occurring on these protected acres has not changed substantially. Fire occurrence rate per million acres in 1928 was around 500—in 1955 it is estimated at 650.

State expenditures for forestry have

increased from \$20,000 to \$1.5 million.

State employees now engaged in forestry number 217, with 20 professional foresters, as compared to the 1928 figure of 9, with 2 foresters.

Area in state forests is now 1,800 acres. There were no state forests in 1928.

Industrially, Mississippi now has 6 pulp mills—there were four in 1945. Number of sawmills in 1953, latest figure, was 777. Total value of forest industry in 1954 was \$311 million, as compared with \$7.3 million in 1935. Lumber increased from \$5.5 million to \$104 million, pulpwood from \$1.8 million to \$188 million.

South Carolina has 12 million acres under fire protection—which gives the state 100 percent coverage for its forest resources. In 1928, the area under protection was 195,000 acres. Slightly better than one percent of the protected area burned in 1954.

State expenditures have increased from \$8,000 to \$1.5 million.

Currently, the state employees 463 forestry workers, including 39 professional foresters. In 1928 there was but one employee—a forester.

Industrially, South Carolina has three pulp mills, an increase of two over 1928. Present number of sawmills is estimated to be 1,300—fifty more than in 1945. Total value of forest industry products in 1952 was \$349 million. The 1928 figure is not known.

Of the 1300 industrial foresters now employed in the south, approximately one-third are serving in the four Project States.

LUMBER PRODUCTION

12 Southern States

Board Feet

1928	14,508,000,000
1935	8,165,000,000
1941	13,423,000,000
1942	15,620,000,000
1943	14,344,000,000
1944	12,555,000,000
1945	11,505,000,000
1946	14,759,000,000
1947	13,639,000,000
1953*	11,300,000,000

*Estimated.

PULPWOOD PRODUCTION

12 Southern States

Cords

1941	7,269,900
1942	7,698,000
1943	7,505,900
1944	8,080,500
1945	8,130,000
1946	8,834,900
1947	9,241,900
1948	11,358,900
1949	8,949,900
1950	12,435,700
1951	14,061,100
1954	16,300,000

With progress of this magnitude at the state level, with fire control at its peak and tree planting at an all-time high; with 21 million acres now in dedicated tree farms, and more and more tree producing land passing into industrial ownership for more intensive management; with research producing new methods and techniques and machines, and the colleges turning out more and more trained foresters to put them to work; with a sympathetic public and a warm and favorable economic climate in what is generally conceded to be the fastest growing industrial empire on the continent, perhaps in the world, it is easy to go along with the all's-well-with-the-world philosophy of prosperity.

Until, that is, you begin to ask questions.

For instance, is the South's present timber stand, as far-flung and as flourishing as it appears to be, and the present pattern of its management equal to the task of meeting future requirements of wood fibre, lumber and other products as presently defined—say, when we reach

Trees and cotton—the old and the new. These big hardwood logs are from the Crockett Tree Farm in the Nickey Brothers Tree Farm Family

AFPI Photo



the 200 million population expected by 1975?

"No, it is not," says State Forester James W. Craig of Mississippi.

"Florida's timber stand and present management practices are not yet geared to the task of meeting requirements 20 years ahead," says C. H. Coulter, state forester of Florida.

"The present stand and management pattern in South Carolina are probably not equal to the task of meeting future requirements of wood," reports C. H. Flory, state forester of South Carolina.

"If we are to do more than rather limited expansion in pulp and lumber products in the next 25 years," states Guyton DeLoach, director of the Georgia Forestry Commission, "we must improve our management, especially on small timber holdings."

While most prophecies point to a doubling of pulpwood production in the next 20 years, the future of lumber in the South is not so clearly defined. In fact, the most optimistic estimates for the decade ahead hold to the present level of production—that is, from a third to 40 percent of the nation's lumber requirements.

One reason for uncertainty is a question mark that looms large on the southern horizon: can the second growth pine forest of the South serve two demanding masters, the lumber industry which requires large, high quality trees, and the pulpwood industry, which operates on a small-tree economy? For the present, there is no one to say for sure, although the current re-survey of the southern forest by the U. S. Forest Service is expected to resolve some of the major questions still unanswered.

But signs pointing to a region-wide decrease not only in the size of pine trees but in the pine area are beginning to multiply. In 1929, a third of the nation's total lumber production came from southern pine. Today, it is little more than one fifth.

American Forests Project

The articles "The Southland Revisited" by Erle Kauffman, the second installment of which appears in this issue, is a project launched by *American Forests* magazine in an effort to more fully acquaint the public with rapid forestry advance in the South in recent years. Started last year, extensive field trips and the preparation of the articles was underwritten by southern woods industries, bankers and other southern leaders. Following publication of the final installment of the series in AFA's special Annual Meeting issue next month, the series will be published in booklet form and distributed to newspapers, magazines and other communications mediums throughout the United States. In this manner, *American Forests* hopes to give the articles the widest possible distribution.

The Georgia re-survey, which was completed this year, emphasizes this trend with the disclosure that during the 18 years between surveys in the state, the volume of pine sawtimber was reduced by as much as 15 percent—the pine area by 800,000 acres.

Significant as this may appear at first glance, it is entirely possible other conditions and other trends revealed by the re-survey may prove considerably more so. To begin with, during the period of the decline in pine sawtimber stock, production of lumber, mostly pine, more than doubled in the state, and pulpwood production, virtually all pine, jumped from 200,000 cords to 2,500,000. Today, Georgia produces more softwood lumber and more pulpwood than any other state in the South.

Thus, in its first big test, Georgia's new young forest met the pressures of a mounting population and widespread industrialization without, it would seem, important shortages or serious injury or impairment. Indeed, to be coldly realistic, the most

significant revelation could well be that while pine sawtimber volume was declining 15 percent under the pressure of demand, the total volume of timber in the state remained virtually unchanged, with pine pole timber building up in sufficient quantities to offset much of the sawtimber loss. The combined volume of both large and small timber was less than two percent under the Forest Survey year of 1936.

"We have in Georgia," points out State Forester DeLoach, "adequate forest acreage to meet any foreseeable demands for timber products, but at the present time these acres are on the average growing only about half of the volume that the soil and the climate is capable of producing. Our management pattern, greatly developed in the past ten years, has yet to meet the challenge of these half-stocked acres."

The chances are good that the great bulk of these low-stocked areas are in what has been termed the South's greatest burden and its greatest strength—its several million small ownerships. Three-fourths of all privately owned forest in the South is in fairly small holdings, most of it in individual ownerships of less than 100 acres. And it is also broadly recognized that up to four-fifths of these small owners are not yet attuned to the favorable economic climate that has come forestry's way in the South.

Can this situation be reversed, which it will likely have to be if the present pattern of forest ownership is to hold? Can the small owner supply the wood to meet the new demands that are on the horizon?

"If they will, they can," declares Mississippi's dynamic James W. Craig. "The land capability is there. What is needed is incentive—and with many, capital."

The incentive has already moved South—and so has a fantastic amount of capital. Now if a workable system evolves that will bring this "warm and favorable climate" closer to the small owner, the Golden Era of forestry have truly arrived in the South.

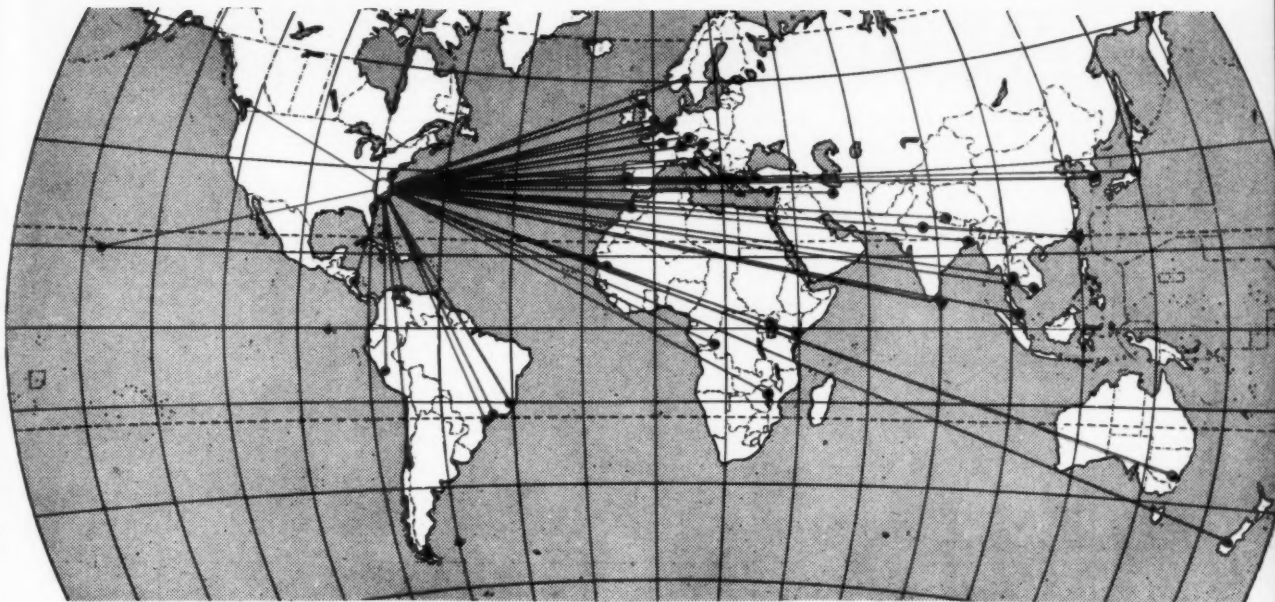
In his concluding chapter in October, the author will plunge more critically into the questions of future wood supply and demand, the pattern of land ownership, and the growing problems of management and protection as population pressures mount in the fastest growing industrial region of the nation—which is also forestry's greatest frontier.

STATE EXPENDITURES FOR FORESTRY EDUCATION

For the four cooperating states in Southern Educational Project
(By state forestry agencies only)

State	1928	1935	1945	1955
Florida	—	\$11,500	\$11,600	\$75,600
Georgia	*	*	6,000	65,000
Mississippi	—	—	—	24,780
South Carolina	*	*	15,350	76,500

*Not available or unknown.



More than 175 people from over 40 countries have come to study the work going on at this single outdoor laboratory

FOREIGN VISITORS

Higher standards of living and a deeper appreciation of the democratic system are aims of the programs that bring foreign technicians to the United States each year

By THOMAS C. NELSON

TEN years ago, it was an uncommon sight to see a "damnyankee" angling up a narrow mountain road winding above Coweeta Creek in the Little Tennessee valley in western North Carolina. Today, the settlers on this little mountain road not only have become accustomed to their northern cousins but show little concern when directions to the Coweeta Hydrologic Laboratory are requested by a Chinese or Indian or Turk. In fact, in the last five years more than 175 persons from over forty countries and colonies have been exposed to the work underway at this single outdoor laboratory.

A similar scene has been repeated throughout the length and breadth of the United States since World War II. Foreign technicians trained in the skills of food and fiber production are the principal visitors. Numerous readers of *AMERICAN FORESTS*, both privately and publicly employed, have no doubt been called upon to show these foreign visitors the intricacies of their particular skills and positions.

Many times the question arises as to whether or not these visitors have received knowledge commensurate

with the time and money involved. Some of the visitors are in America at their own personal expense; some are here at the expense of their governments. But the majority of the visitors have had their tab picked up by Uncle Sam under the Point IV program, the FAO, or another similar sponsor who is partially or wholly dependent upon the U. S. taxpayer for its existence.

Some incidents at a small field station regarding the type and nature of these foreign visitors, what they have learned from us, and what we have learned from them cannot evaluate the worth of the entire educational effort that America is making in relation to foreign technicians. However, it may help to portray a better perspective of the program at the grass roots level.

The Visitors

Coweeta's visitors have been scattered from all over the world. They have come from all the continents with the obvious exception of the Antarctic and those nations of Europe behind the Iron Curtain. The earlier groups were from the European countries, especially the Allied Nations. Later, visitors from Western Germany, Italy and Japan appeared and in the past year or so, the Asiatics have been represented as well as more and more good neighbors from South and Central America.

Not only have more than 40 countries or colonies been represented but, in many cases, representatives were from various states or provinces within the same country. Brazil fur-

(Turn to page 52)

Italian, Belgian, Greek and Yugoslavian technicians attending lecture. Most successful sessions have been on a 4- or 5-month basis



The Stearns Case

... an analysis

By SAMUEL T. DANA

THE goal of multiple use in land management has received much emphasis in recent years, particularly in connection with the administration of the national forests. Wood, water, forage, wildlife, recreation, and minerals are all important products of national forests; why not produce them simultaneously on the same area? The concept is an appealing one, but there are certain biological, physical, and economic facts that prevent its universal application. Seldom on an area of one acre, or of a million acres, is it possible to produce a maximum amount of any two or more goods or services. Managerial practices that will produce the most wood are unlikely to produce the most forage or wildlife. Certain methods of mining may have an adverse effect on recreation and the water supply. What combination of uses is ecologically sound and will yield the largest net returns (both tangible and intangible) is a question that has to be answered for every national forest or other administrative unit on the basis of thorough study of all the pertinent facts.

"The Stearns Case," concerning which two points of view were presented in *AMERICAN FORESTS* for April, 1955, provides an excellent example of the difficulties of multiple use when conflicting interests are involved. In 1937 the Stearns Coal and Lumber Company sold to the United States some 47,000 acres of cutover land now included in the Cumberland National Forest in Kentucky, with the reservation of "all metaliferous minerals, coal, oil, gas and limestone . . . in perpetuity." The land was purchased by the government under the Weeks Act of 1911, as amended by the Clarke-McNary Act of 1924, for the purposes of watershed protection and timber production.

About 1949 the Stearns Coal and Lumber Company expressed an interest in strip mining these lands and discussed the question in a preliminary way with the Forest Service. In August 1953, the company made formal application for a strip

mine permit. In January, 1954, the General Counsel of the Department of Agriculture issued an opinion that the company did not have the right to strip mine under its mineral reservation. Although the company disagreed with this interpretation, it wished to avoid a law suit except as a last resort. It therefore requested administrative permission to undertake strip-mining operations on the area. After thorough study of the situation the Forest Service on July 30, 1954, denied the request on the ground that the anticipated damage which would result from strip mining rendered that form of mining inconsistent with the public interest.

The company then appealed from the Forest Service decision to the Secretary of Agriculture. He in turn appointed a committee of three consultants to advise him in the matter. The committee consisted of Charles P. Taft, an attorney of Cincinnati, Ohio, chairman, R. L. Wilhelm, a mining engineer of St. Clairsville, Ohio, and the writer. It was asked to consider the question wholly from the point of view of the administrative action which the Secretary should take in the over-all, long-term public interest, without regard to the legal questions involved. Following a field inspection of the region and a public hearing at Stearns, Kentucky, on January 27, 1955, it submitted its report to the Secretary of Agriculture on May 12. A majority of the committee recommended affirmation of the decision of the Forest Service not to permit strip mining, and on July 22 that action was taken by the Secretary.

From the standpoint of multiple use, wise land management, and sound administration, the case was a difficult one not only because conflicting interests were involved, but also because of the impossibility of determining and evaluating precisely either the benefits or the damages likely to result from strip mining on the area in question. Experts and laymen alike disagreed on such matters as the extent to which strip mining is practicable; the amount



Dean Emeritus, School of Natural Resources, University of Michigan

of employment to which it might give rise; its effect on erosion, stream pollution, and recreation; and the cost and effectiveness of reclamation measures. Furthermore, the emphasis on the "long-term" public interest necessitated looking into a future which no one can predict with accuracy in these rapidly changing times. Where opinions as to the facts and their implications differ so widely as they did in the present case, the Secretary of Agriculture's final decision had to be based on his own judgment as to the prospective benefits and damages, both present and future, likely to result from strip mining in the particular area under consideration.

Since the case has attracted widespread attention, a brief presentation of some of the major issues involved may be of general interest.

The Stearns Coal and Lumber Company regards the initiation of strip mining on the lands in question as essential to the profitable conduct of its own business and to the maintenance of the economic prosperity of the town of Stearns and of McCreary County. In the present depressed condition of the coal industry, deep mining is at a decided disadvantage as compared with strip mining because the latter is so much cheaper, except where reclamation measures may be very costly. Moreover, under present conditions, strip mining offers the only means of utilizing certain seams. The Stearns Company itself has had to curtail its deep mining operations and believes that it cannot compete success-

fully in the present market unless it too can turn to strip mining.

Unless strip mining can be undertaken, the company fears that the Kentucky and Tennessee Railway, which taps the area and which it controls, will have to greatly curtail or suspend its operations. An aggravating factor is the impending closing of the company's sawmill at Stearns because of the exhaustion of the available timber supply. One reason for the company's insistence on permission to strip mine is its belief that these circumstances taken together create a critical situation of such urgency that court action, which would necessarily be slow, does not provide a satisfactory remedy. Neither, in its judgment, does utilization of the extensive coal lands which it owns in Tennessee, where there are no restrictions on strip mining.

That strip mining on the area in question under the requirements of the Kentucky law would be to the financial advantage of the company seems reasonably clear, but the extent of the advantage is difficult to assess with any accuracy. In a letter to the Supervisor of the Cumberland National Forest, the President of the company stated: "As a general proposition all seams are overlaid with sandstone rock and just how successful a stripping operation would be with this rock overburden no one can accurately forecast at the present time." More recently he stated that the company would undertake to strip the coal from three apparently favorable locations and see how successful the operations proved. "In the event we were encouraged we undoubtedly should before the end of the removal of this coal prospect for other specific locations within a radius of about four miles of the K & T Railway so that the cost of the truck haul would not be exorbitant." In other words, the outlook is promising but still somewhat uncertain.

Another element of uncertainty lies in the cost of reclamation of stripped areas. The Kentucky Strip Mining and Reclamation Act which went into effect July 1, 1954, "finds that the unregulated strip mining of coal causes soil erosion, stream pollution, the accumulation of stagnant water and the seepage of contaminated water, increases the likelihood

Forest Service Upheld

STRIP mining of coal on the Cumberland National Forest in Kentucky would not be in the public interest the Department of Agriculture ruled last month in rejecting the appeal of the Stearns Coal and Lumber Company from a 1954 decision by Regional Forester Charles L. Tebbe, of Region VII, who first denied the Stearns Company application.

In upholding the decision of the Forest Service, the Department found that strip mining on the national forest would not be in the best interests of tree growing and watershed values; that the Kentucky strip mining laws are inadequate to assure satisfactory reclamation of stripped land; and that public opinion in Kentucky was strongly against strip mining on the national forest.



Secretary Peterson

In the opinion handed down by Assistant Secretary of Agriculture E. L. Peterson, it was noted that the Stearns Company had appealed directly to the Secretary since it was well known that Regional Forester Tebbe had the full backing of Forest Service Chief R. E. McAdle in his decision. The Stearns Company appeal was

based on the fact that in deeding certain cutover lands to the Forest Service in 1937 it had retained the mineral rights. The Forest Service had contended that strip mining, as contrasted to deep mining, had not been anticipated in 1937.

In considering the Stearns Company appeal, the Department appointed a committee of disinterested persons to examine the probable effect of strip mining on national forest values and to sample public reaction. With the Stearns Company concurring, the Department proceeded to name a three-man group of consultants to make recommendations to the Secretary. This group was composed of Charles P. Taft, Cincinnati attorney; S. T. Dana, former Dean, Department of Natural Resources, University of Michigan; and R. L. Wilhelm, a mining engineer of St. Clairsville, Ohio. Mr. Taft was elected chairman of the group.

The committee's explorations which largely governed the Department's decision is the subject of an analysis by Committee Member Dana elsewhere on these pages. In its own opinion the Department points out that "the 47,000 acres of lands acquired from the Stearns Company in 1937 were cutover lands which were acquired for watershed protection and timber production as well as public recreation purposes. At that time little if any income was being derived from these lands. However, in the intervening years, under the protection and administration of the Forest Service, selective logging has been pursued and recreation areas developed and protected. This has resulted in ever-increasing annual receipts from the land, a portion of which is distributed each year to local government agencies, and substantial annual increases in the use of the area by recreationists. Local income derived from these sources will continue to increase indefinitely and local businesses founded on use of national forest timber and serving the needs of recreationists are rapidly becoming a substantial part of the local economy."

of floods, destroys the value of land for agricultural purposes, counteracts efforts for the conservation of soil, water and other natural resources, destroys or impairs the property rights of citizens, creates fire hazards, and in general creates hazards dangerous to life and property, so as to constitute an imminent and inordinate peril to the welfare of the Commonwealth." The law con-

sequently authorizes the Strip Mining and Reclamation Commission created by the act to require strip-mine operators to take such remedial measures as are necessary for the reclamation of strip-mined areas. As a means of securing compliance with the requirements, the law requires operators to file a bond of not less than \$100 nor more than \$250 for
(Turn to page 44)



Dean of Maine conservationists, Chief Stanwood has worked diligently for 30 years to help improve the fishing waters of Maine

Portraits

well known outdoor personalities have come there to enjoy the hunting and fishing, and Susie Stanwood's good cooking. It has been a good life for the Stanwoods and it has been enriched by the friendship of such outdoor men and writers as Ben Ames Williams, John Alden Knight, Sam Scoville, Jim Le Beck, Alton Hall Blackton, Dr. Henry Van Dyke, Perry Greene, and Margaret Henrichsen, whose book, "Seven Steeples," tells of her experiences as pastor of seven churches that are within an easy driving distance from Tunk Lake.

All of "chief" Stanwood's conservation projects have not been successful. He still chuckles as he recalls one undertaking, which he calls "operation Guinea hens," that ended in a dismal failure.

The project that ended so disastrously started when Stanwood received a catalogue from a breeder of game birds who was most enthusiastic about the Guinea hen as an ideal fowl for stocking a game preserve. The catalogue stressed the fact that one of the outstanding characteristics of Guineas was their habit of roosting high where they

Mrs. Stanwood's good cooking is added incentive to visit the Big Chief Camp



TODAY, most Maine sportsmen are conservation-minded and are helping the Department of Inland Fisheries and Game to carry out a program that will insure good hunting and fishing in Maine in the years ahead.

Probably, none of them are more keenly interested in the program than Harry "Chief" Stanwood who has been called the "Dean of Maine Conservationists." He is the proprietor of the Big Chief camps at Tunk Lake, which is noted for its fine trout and salmon fishing. Much credit for this good fishing water should go to Stanwood, who has worked untiringly to improve the feeding and spawning grounds in the lake, for 30 years.

When Stanwood, accompanied by his wife and five dogs, drove a team loaded with his household goods, up the lake on that blustery March day in 1923, conservation, as it is practiced today, was largely unknown. Generally, it was limited to the efforts of a few future-minded sportsmen who got together once a year to dump some fingerling trout or other fish into their favorite fishing waters. Since no effort was made to improve water conditions that would help the young fish to survive many of them were quickly destroyed by natural enemies.

Game conservation was in even a worse condition. Only a few conscientious hunters observed the game laws, and poachers chuckled over a rather vicious jest which proclaimed that it was alright to "kill three deer

and a game warden during the open season."

During the summer months the poachers made a regular practice of selling venison and partridges to wealthy summer visitors who were willing to pay a high price for something different to serve at their lavish dinners.

Stanwood was an itinerant country photographer for 10 years but his intense interest in wildlife often interfered with his picture work. He found it more enjoyable to cruise in the woods and study the wild creatures than to stay indoors and point his camera at stiffly starched ladies and their unwilling offspring. Finally, he decided to give up photography and start a sporting camp at Tunk Lake where he would have an opportunity to study wild life in their natural habitat.

Stanwood admits that things didn't look too good when he arrived at Tunk Lake on that March day in 1923. "It was just a small clearing in the wilderness," he recalls. "There wasn't any road that was passable in the spring and we had to move in before the ice went out of the lake."

The one small camp on the lake needed a lot of repairs but Stanwood and his wife, Susie, soon turned it into a comfortable home. Then they began building other cabins and in time they turned the wilderness tract into a settlement of snug cabins with a fairly good road connecting it with the main highway.

During the years since the Stanwoods first came to Tunk Lake many

tof A Maine Man |

By JONAS CRANE

would be safe from night marauders.

Stanwood quickly decided that a big flock of Guineas would be a good addition to his shooting preserve, and he ordered a large batch of eggs. Then he searched the countryside to find enough settin' hens to hatch the eggs. The project went off very well and in due time he had a nice flock of young Guineas, that quickly grew into fine birds.

They were nearly full grown by the first of September and one fine day Stanwood put them into some burlap bags and paddled across the lake in his canoe. He carried the squawking birds from the shore of the lake to a distant mountain that seemed like an ideal spot for his Guinea project. When the last bird had been released, Stanwood headed his canoe for home feeling that he had started a conservation project that would pay off in some novel sport in the not too distant future.

However, when he returned to check on the birds a week later, he found that the only thing left of his fine flock of Guineas was a few wing and tail feathers. Apparently these birds had not inherited the high roosting trait, and had been an easy

meal for some prowling fox or raccoon. Stanwood drily observes that ever since that experience he has always taken any statement in a catalogue with a large grain of salt.

The present day conservation program of the Maine Inland Fisheries and Game Department is a big improvement over the crude efforts of the first conservationists. The driving force behind it is a group of earnest young biologists who work tirelessly to improve fish and game conditions. Their work covers all phases of conservation, ranging from the observation of the feeding habits of small fish to a close study of the reproductive organs of deer, to determine the condition of the Maine herds.

One of the important undertakings of his program is the improvement of fishing waters all over the state, Mr. Stanwood thinks. The study of pollution sources is probably the most important single item of the program, but it embraces many other projects. As an example, trout need a steady flow of pure cold water to thrive, and the program's stream improvement work includes the removal of natural or artificial

Tunk Lake's fine trout and salmon fishing is the result of Mr. Stanwood's efforts to improve the feeding and spawning grounds



Fish and Game Warden visits Stanwood to discuss conservation activities in area

obstructions that might produce warm, stagnant water. In some instances, hand-made deflectors are constructed to speed the flow of water.

Plenty of riffle areas are also needed in streams to serve as nesting sites and feeding grounds for young fish. These should be balanced with plenty of deep pools for the larger fish. The Maine conservation program tries to maintain both of these desirable conditions by erecting proper instruments that will control the water flow. The removal of any

(Turn to page 50)





Like Jacksonville's famous "Treaty Oak," the roots of forestry are deep in southern soil today and the movement as ma

80TH ANNUAL MEETING

THE AMERICAN FORESTRY ASSOCIATION

OCTOBER 3-6, 1955

Headquarters—Hotel George Washington—Jacksonville, Florida

Theme—SOUTHERN FORESTRY—AN INDUSTRIAL REVOLUTION WITH ROOTS

Monday, October 3

Morning Session: 9:30 a.m. - 12:00 noon

Presiding—DON P. JOHNSTON—President, AFA, Wake Forest, N. C.

Invocation—Bishop F. A. JUHAN—Episcopal Diocese of Florida, Jacksonville

Welcome to Jacksonville—HAYDON BURNS, Mayor, City of Jacksonville

Welcome to Florida—GEORGE G. WARE—Treasurer, Florida Forestry Association and Chairman Board First National Bank, Leesburg, Fla.

Response—Mrs. KATHARINE JACKSON—Director—AFA, and Chairman, New Hampshire Natural Resources Council, Peterborough

Keynote Address—Honorable SPESSARD L. HOLLAND, U. S. Senator from Florida, Bartow

Address—Yesterday and Today in Southern Forestry—Dr. R. E. McARDLE, Chief, U. S. Forest Service, Washington, D. C.

Address—Looking Ahead in Southern Forestry—VERTREES YOUNG, Executive Vice President, Gaylord Container Corporation, Bogalusa, La.

Address—American Forestry on the March—LOWELL BESLEY, Executive Director-Forester, AFA, Washington, D. C.

Luncheon Session: 12:00 noon - 2:00 p.m.

Master of Ceremonies—WILLARD M. FIFIELD, Provost for Agriculture, University of Florida, Gainesville

Address—Honorable LeROY COLLINS, Governor of Florida, Tallahassee

Afternoon Session: 2:00 - 5 p.m.

Presiding—Dr. WILSON COMPTON, Vice President, AFA and President, Council for Financial Aid to Education, Inc., New York City

Topic—Research and Education

Moderator—J. V. WHITFIELD, President, Forest Farmers Association, Burgaw, N. C.

Research—Dr. E. L. DEMMON, Director AFA and Director, Southeastern Forest Experiment Station, U. S. Forest Service, Asheville, N. C.

Education—HENRY J. MALSBERGER, General Manager, Southern Pulpwood Conservation Association, Atlanta, Ga.

Panel on Forest Management

Moderator—INMAN F. ELDREDGE, Honorary Vice President, AFA and Forest Consultant, New Orleans, Louisiana

Industrial Viewpoint:

Pulpwood—J. E. McCAFFREY, Vice President, International Paper Company, Mobile, Alabama

Lumber—ADRIAN P. DOWNING, Chairman, Forest Management Committee, National Lumber Manufacturers Association, Executive Vice President, T. R. Miller Mill Company, Inc., Brewton, Alabama

Integration—HARLEY LANGDALE, JR., Vice President, Langdale Company, Valdosta, Georgia



Photo by Florida Times-Union

as many branches

RELATED MEETINGS

Sunday, October 2—George Washington Hotel, Jacksonville

AFA Board of Directors and Honorary Vice Presidents

10:00 a.m. and 2:00 p.m. Flamingo Room; Luncheon 1:00 p.m.—
Banquet Room

Forest Farmers Association Board of Directors

2:00 p.m. Spanish Room

Council of Forestry Association Executives

8:00 p.m. Blue Room

Thursday, October 6—Silver Springs, Florida

Natural Resources Council of America

Public Viewpoint:

State—C. H. COULTER, State Forester, Florida Forest Service, Tallahassee

Federal—C. A. CONNAUGHTON, Regional Forester, Region 8, U. S. Forest Service, Atlanta, Georgia

Evening Session: Beginning at 7:00 p.m.

“Dutch Treat” dinner sponsored by the Florida Forestry Association

Master of Ceremonies—JUSTIN R. WEDDELL, President, Florida Forestry Association, Pensacola

Tuesday, October 4

7:00 a.m.—Club Breakfast

Tuesday, October 4 (or Thursday, October 6)

After breakfast half of visitors to St. Augustine as below and other half to Silver Springs (See Thursday)

8:00 a.m.—Leave by bus for TOUR OF ST. AUGUSTINE

Historic and Scenic Points of Interest

12:00 noon—Buffet Luncheon at Marineland

Master of Ceremonies—X. L. PELLICER, Vice President, AFA; Chairman, AFA General Committee, 1955
Annual Meeting and Vice President, St. Augustine National Bank

Afternoon—Visit Marineland

Evening—Barbecue—Courtesy of St. Regis Paper Company

Wednesday, October 5

7:00 a.m.—Club Breakfast, George Washington Hotel

8:00 a.m.—Bus leaves on Forestry Tour to Olustee

Tree planting, fire fighting, logging, and private forest management.

Lunch at Olustee Experimental Forest

Remarks: Honorable ROBERT F. SIKES, Congressman, Third Congressional District, Crestview, Florida

Research in naval stores and forest genetics by Southeastern Forest Experiment Station, U. S. F. S. and
Exhibits by Florida National Forest

3:00 p.m.—Leave Olustee

Evening

7:00 p.m.—80TH ANNUAL BANQUET—AFA—George Washington Hotel, Jacksonville

Invocation—Most Reverend THOMAS J. McDONOUGH, Auxiliary Bishop, Diocese of St. Augustine

Toastmaster—DR. PAUL D. SANDERS—Honorary Vice President, AFA, and Editor, The Southern Planter, Richmond, Va.

Address—SPEAKER TO BE ANNOUNCED

Conservation Awards—Presentations by ROBERT N. HOSKINS, Chairman, AFA Conservation Awards Committee, and
Industrial Forester, Seaboard Air Line Railroad, Norfolk, Va.

Thursday, October 6

7:00 a.m.—Club Breakfast—George Washington Hotel, Jacksonville

Thursday, October 6 (or Tuesday October 4)

After breakfast half of visitors to Silver Springs as below and other half to St. Augustine (See Tuesday)

8:00 a.m.—Tour to Silver Springs, Florida and return to Jacksonville

5:30 p.m.—Adjournment

Severe economic distress is forcing the Apaches to abandon their ancient ways and adapt themselves to the modern white man's world

By CHARLES COOPER

THE sons of Cochise and Geronimo are in trouble. The last major Indian tribe to surrender to the armed might of the United States, the far-ranging Apaches are today crowded into several isolated reservations in Arizona and New Mexico. Here they have been forced to try to adapt their ancient way of life to the modern white man's world. So far, the effort has not been too successful. The Apaches of today live in poverty which is in sharp contrast to the prosperity of their white neighbors in the booming Southwest.

Some Indian tribes have successfully made the transition to the modern world; those of the Southwest in general have not. The Apaches, like the Navajos, Papagos, and other southwestern tribes, are suffering severe economic distress on their under-developed reservations. Low incomes, chronic unemployment, and perpetual conflict between the new and the old, are symptoms of the "Indian problem."

It's easy to bewail the fate of the modern Indian. It's less easy to do something about it. But a big start has been made toward improving the lot of at least one branch of the Apache tribe. Early this year the Stanford Research Institute completed a comprehensive study of the economic opportunities open to the San Carlos Apaches of Arizona. Entitled "The San Carlos Apache Indian Reservation—a Resources Development Study," this report is a soundly-reasoned long range plan designed for the Indians themselves. Now being implemented by a determined action program, this review by a group of impartial experts offers real hope to the Apaches.

Perhaps the most significant thing about this report is not its specific contents, but the fact that it was made at all. This is a development study made, not by a government agency, but by an independent industry-supported research institution. It is an attempt at applying the management techniques of American business to the problems of the Indians. The Stanford report emphasizes that the future of the Apaches must be worked out by the

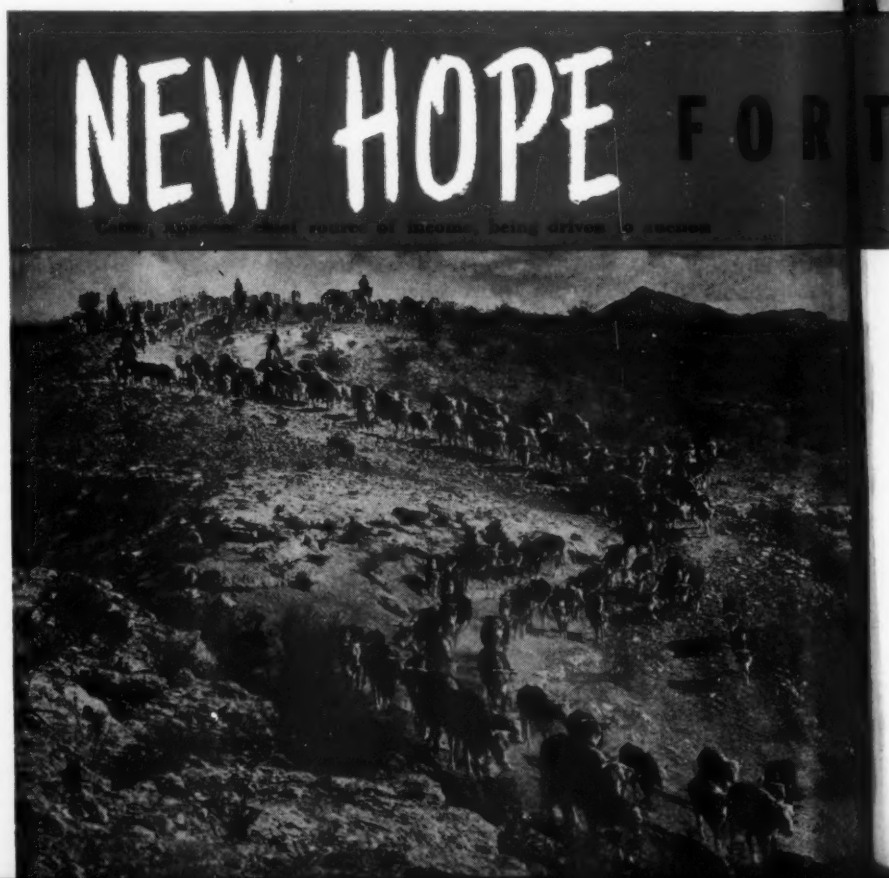
Indians themselves, with the help of the U. S. Bureau of Indian Affairs and of the surrounding white community. The broad approach of this report makes it of nation-wide interest to those concerned with Indian problems.

The Stanford Research Institute is an independent non-profit corporation affiliated with Stanford University. It provides applied research services in the fields of engineering, physical science, and economics on a contract basis to business and government. Typical of the Institute's work is the recent survey "America's Demand for Wood, 1929-1975," completed last year for the Weyerhaeuser Timber Company and reported in *AMERICAN FORESTS*.

In November, 1953, representatives of the San Carlos Apaches requested that the Institute make a survey which could be used in alleviating the economic distress on their reservation. The Institute agreed to make a comprehensive study of the

resources of the San Carlos reservation, and of the best methods by which these resources could be utilized by the Apache people. Most of the cost of this study was borne by SRI as a public service, but the Apache tribe contributed a considerable share in token of its deep interest in the project.

The San Carlos reservation comprises some 1.6 million acres of hilly and mountainous land in eastern Arizona. On this reservation live about 4000 Indians, with another 500 members of the tribe employed elsewhere. Most of the area is grassland upon which graze excellent herds of Hereford cattle. There are fine stands of productive ponderosa pine timber in the higher mountains, and a small acreage of irrigated farm land along the Gila River. This reservation is not only the sole support of the San Carlos band of the Apache tribe, it is also a factor of major importance to the people of Arizona. Apache cattle and tim-





Antique wagons like this one, are the usual method of travel

THE APACHE

ber add appreciably to the total wealth of the state. More important, the reservation lands are important sources of the water upon which arid Arizona depends for its very existence.

The major industry is cattle-raising. The Apaches are not traditionally an agricultural people, but in the last twenty-five years they have built up a cattle herd of outstanding quality. The cattle are owned by individual Indians, but actual operation of the livestock enterprise is handled by eleven cooperative livestock associations. Each association is allotted a portion of the tribal lands upon which to graze its stock, and each employs a manager and a

few cowboys who do the actual work of handling the cattle. The Bureau of Indian Affairs provides general supervision, but the major responsibility is in the hands of the Apaches themselves.

This is no small enterprise—some 12,000 cattle are marketed from reservation ranges each year. Income from this source in 1954 was over a million dollars, in spite of the recent decline in livestock prices. The peak of the cattle industry came in 1952, when sales totalled \$2,242,000. Operation of the cattle herds requires little or no actual labor by individual owners and most of the San Carlos families have been able to eke out a bare living from



The cradle boards are still used by all Apache mothers for the children

their share of cattle receipts without having to do any work. The resulting idleness and lack of constructive outlets for natural energy has led to partial breakdown of family relationships, excessive drinking, and other social problems. These problems were aggravated by the sharp decrease in individual income due to lower cattle prices in the past two years.

There are at least 3400 acres of irrigable land on the reservation, but almost no farming was being done when the survey was undertaken. The existence of steady income from the livestock enterprise removed most of the incentive for active farming. Unwise land distribution policies in the past have greatly complicated the agricultural problem. Lack of farm credit has made land improvement difficult.

This was the framework within which the Stanford Research Institute began its study in the spring of 1954. The final report is a 343 page volume of general and specific recommendations for improvement of the economic conditions of the San Carlos Indians. While it is basically

a resources development study, the special situation to which it must be applied has resulted in strong emphasis being given to the social and political conditions under which the Apaches live.

The report offers no magical formula by which the Apache tribe can overnight become a wealthy and carefree nation. In the words of the introduction, "No income sources are foreseen that would enable the people to live without working harder." Future development must be based on the present major activities of the tribe—livestock raising, farming, and timber production. Other minor sources of income are possible, such as mining, handicrafts, and tourist trade, but these will probably be of relatively little importance. Two basic recommendations underlie the entire report. First, *inefficiencies and poor management practices must be eliminated from present tribal enterprises.* Second, *the Apache people must be helped to adjust more completely to the white man's competitive world where each must look to himself for economic survival.*

The Stanford men made a number of specific suggestions. The livestock associations can greatly improve their business operations, and their methods of handling cattle. There is probably room for a number of individual livestock enter-

prises in addition to the association herds. These small individual cattle operations will foster a badly-needed spirit of individual initiative among the Indians. Improvements are needed in the tribally-owned ranges, particularly additional fencing and elimination of worthless juniper and mesquite shrubs which are invading formerly productive grasslands. These improvements will pay dividends in the form of increased livestock production, and more important, will help to maintain the basic land resource in good condition.

Re-establishment of efficient farming operations will provide increased income and employment, and will reduce the necessity for buying agricultural products off the reservation. The tribe itself will have to act to straighten out the confused land ownership situation which discourages farming at present. A considerable acreage of new farm land can be developed at a reasonable cost, but assistance will have to be provided to the individual farmer in the form of long term loans in order to make this development possible.

Some of the reservation timber is being cut on a sustained yield basis, but much of it is inaccessible due to lack of roads. This timber is potentially one of the most valuable resources on the reservation, if roads can be constructed so it can be profitably logged. The present sys-

tem of selling stumpage on bid to established operators is probably better than any attempt at Indian operation of logging crews or sawmills. Efforts can well be made, however, to increase the number of Indian workers employed in the timber operations.

Mineral production has never been of great importance on the San Carlos, and future development will probably be beyond the resources of the Indians themselves. Development by outside interests has largely been stymied by the short lease period permitted by the tribal charter and federal regulations. Liberalization of the terms under which miners must operate may result in increased mineral royalties to the tribe.

The tribe has long operated a number of commercial enterprises such as the tribal store, gas stations, and other businesses. The Stanford experts suggested a number of improvements in these enterprises for more profitable operation. There are also many changes which could well be made in the tribal political organization, in the interest of greater efficiency and flexibility.

Many of the recommendations of the Stanford report have already been put into effect. A new tribal charter was approved at a recent election. This charter removed many of the restrictions which have hampered development in the past. Improvements are steadily being made in the tribal business enterprises, and most of the abandoned farm land has been put back into cultivation this year. The current uranium boom has hit the San Carlos, too, and the Atomic Energy Commission is establishing an ore-buying station and uranium mill at Cutter which will employ some sixty Indians.

The personnel of the Bureau of Indian Affairs who are charged with supervision of Apache affairs are vitally interested in this report. The time is eventually coming when the federal government will withdraw from the reservation completely. In the meantime, the objective of the Indian Bureau is greater self-reliance on the part of the Indians. The federal government acts as a protector of the lands and resources which belong to the tribe. In Superintendent Tom Dodge, a Navajo Indian himself, the San Carlos tribe has a supervisor who is sympathetic to their problems.

(Turn to page 51)



Apache mother and daughter dressed in traditional costume for the puberty rites which are being conducted for the girls of the tribe



Like other species of persecuted wildlife, the Bighorns may now live in comparative safety on reservations such as Joshua Tree



Bighorns are hard to detect against the neutral background of the rocky formations in which they live

The Bighorns of Joshua Tree

By CHARLOTTE B. NORRIS

NATURALLY a highland animal, the California Bighorn (*Ovis canadensis*) or Mountain Sheep, prefers the high rugged places which are as nearly inaccessible to man as possible. The Bighorns of Joshua Tree National Monument are no exception, and while they roam over a very wide area to follow the forage and the diminishing waterholes which dry up so speedily after the springtime abundance, they are in a little better position in one way, for as yet they do not have to compete with the rapidly increasing hordes of the introduced wild burro as do their cousins in the Death Valley regions.

When applied to Bighorns, the name sheep seems a misnomer, as their only resemblance to the domestic variety is their approximate size. They do not even wear wool, but are clothed in a warm garment of long hair resembling the coat of the mule deer. In many ways they resemble a goat more than a sheep. The ewes, or nannies, have hammer-shaped heads topped by flat curving horns like those of the domestic billy

goat. The horns of the males, or rams, are spectacular, really the outstanding feature of their appearance. They are quite long, and spiral back to form more than a half circle; and while these embellishments look very dangerous, they were apparently intended for body-beautiful effects only, as the points are too far back to function in self defense. In fact, during the October to December mating season, when two jealous males engage in a person-to-person encounter, they might as well lay aside their horns, for the routine is for the antagonists to stand several feet apart facing each other, and make terrific rushes at each other's heads until one sheep is knocked down for the count, while the other triumphantly walks off with the lady they both love. However, the points of the horns do serve one practical purpose—that of prying up hard-to-get forage that is wedged under rocks or roots. In this process, pieces of horn are often broken off, and found later by man in the desert sands.

In April or May, Mama Bighorn produces twin lambs which are iden-

tical to all eyes except her own. She does not permit these youngsters to follow her from home until they are old enough to escape from their enemies by out-running them. And so, for five months of intensive training, the juniors remain in protected indentations in the rocky formations. It is difficult to detect any sheep against the neutral coloring of their background, and it is only when a lamb betrays its position by moving, that one of its most deadly enemies, the Golden Eagle, has the advantage. This predator coasts

(Turn to page 55)

The rams wear spectacular horns



RIVER RATS

On both the San Juan and Hite-Lee's Ferry expeditions, people may hike up the many side canyons along the way



IN the Utah canyon country there is an outfit with many years experience in running down the waters of its rivers by boat. The Mexican Hat Expeditions, with headquarters in Blanding, Utah, is a direct outgrowth of the first commercial venture to take passengers—affectionately dubbed canyoneers or river rats—on these rivers, which Norman Nevills started in 1934. Upon the death of Nevills in an airplane accident in 1949, Frank Wright, his senior boatman, took over the equipment and established runs through the wildest and most magnificent territory in the United States left untouched by civilization.

From May through September, the Mexican Hat Expeditions run regular scheduled and charter trips down the picturesque Glen Canyon of the Colorado from the little community of Hite, Utah, to Lee's Ferry, Arizona, the location of the ancient crossing used by the Mormons until the building of the high suspension bridge which now spans the river five miles below Marble Canyon. Nearly a century ago, these pioneers laboriously hacked a road at Hole in the Rock. Along the way emerge such wonders as Moki Canyon, where 1,000 feet above the canyon floor loom the well-preserved, prehistoric dwellings of a long-lost Indian people. One gazes in wonderment at the sheer splendor of 2,000-foot cliffs that hem in the Colorado.

Another trip during this season is the frequently-taken run down San Juan River from Mexican Hat, Utah, to the confluence with the Colorado River, and from there on

Sailing down the San Juan River at any time, you may see a movie being made



IN UTAH

By WELDON D. WOODSON

down Glen Canyon to Lee's Ferry. En route passengers view the famed Goosenecks of the San Juan, where the river endlessly winds its way through a weaving crevice. At Grand Gulch are found the remains of the basket weavers, and at Slick Horn Gulch, a natural pool provides a swim for aquatic enthusiasts. In Redbud Canyon—a narrow chasm which widens out to a red rock amphitheater where clear water cascades from an alcove covered with maiden hair fern—grows rare and beautiful desert orchids. Here on the San Juan one is apt to see motion pictures being made. For instance, scenes in Universal-International's "Smoke Signal" were filmed in this canyon. When the navigator finally makes a junction with the mighty Colorado, the guests behold such historical grandeur as Hidden Passage, Labyrinth Canyon and Music Temple, this last consisting of a mammoth, acoustical-perfect, natural amphitheater.

Women as well as men, vouch river rats Linda Lyman and Patricia McCormick, thrill to tour by boat America's most inaccessible country. In fact, persons of all walks of life are members of the D. W. B.'s—Drift Wood Burners. A guide accompanies every two passengers. Among the well-known who have made these trips are F. E. Masland, Jr., of the Masland Rug Co.; Edwin McKee, head of the Arizona University Geology Department; Tad Nichols, desert photographer; E. E. Olsen, whose Oscar winning "Danger River" was filmed on such a river excursion; Randall Henderson,

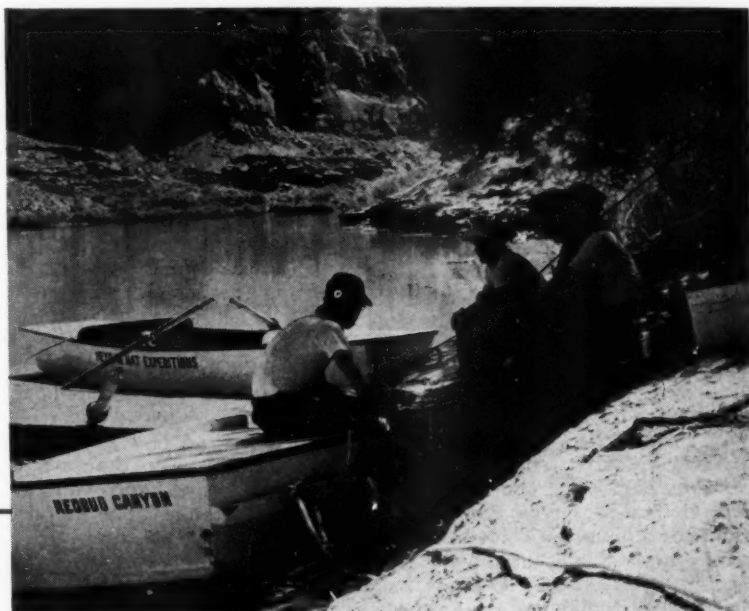
editor of *Desert Magazine*; Dr. Arthur Compton, chancellor of Washington University in St. Louis.

On both the San Juan and Hite-Lee's Ferry run, persons may hike up into many side canyons, some of which are veritable oases in the desert with streams, ferns and flowers in abundance. One hike leads to the famous Rainbow Bridge, which rises 326 feet from narrow Bridge Canyon floor. This, the world's largest natural bridge, was revered by the Navajos. Contemporaries, too, feel its magic when catching their first glimpse of this God-made wonder. So scenic and charming are the canyons that much time is spent in photography. Actually,

all of this river-canyon-Indian country is literally a photographer's paradise and the trips pull hosts of the nation's foremost photographers of motion and still pictures.

The instruction sheet on what to take cautions that personal duffel is limited to fifteen pounds. But this does not include camera and equipment, carried in a waterproof bag. "Bring more film than you generally use!" the brochure urges. As for attire, one should have hiking shoes, canvas shoes, socks, a long-sleeved shirt, sturdy jeans, shorts or bathing suit and a broadbrimmed hat that holds secure. Obviously, one comes with essential toilet articles, including—
(Turn to page 59)

River rats take time out to enjoy scenery on tour through Glen Canyon. The sailing is smooth on this part of Colorado River.



Women as well as men, in fact people in all walks of life, thrill to these tours



Thrills, excitement and relaxation — all may be found on
a boat ride through America's most inaccessible region,
the Utah canyon country, via the Mexican Hat Expeditions



Charles A. Sprague

* James P. Rogers' recent article, "The Battle for Public Timber," has stirred up a lot of interest in the Northwest. This month AMERICAN FORESTS presents the comments of former governor Charles A. Sprague as they appeared in his Oregon Statesman

It Seems to Me . . .

By CHARLES A. SPRAGUE

THE administration of O & C lands has been productive of many controversies. A new one now is propagated in a lengthy article in the July issue of AMERICAN FORESTS. It is entitled "The Battle for Public Timber" and was written by James P. Rogers, Portland attorney who has specialized in the practice of law as related to the forest products industries. Previous disputes have raged around access roads and competitive bidding and cooperative agreements. Rogers levels his gun at the "Balkanizing" of O & C timber by limiting sales to processing plants within limited areas.

He traces the restrictions back to the 1937 act which was worked on by Guy Cordon, then representative of the 18 O & C counties, and sponsored in Congress by Rep. James W. Mott and Sen. Charles L. McNary. This act set up the requirement that the lands should be administered on a sustained yield basis, and then:

"... the Secretary of the Interior was allowed, if it would 'facilitate sustained-yield management' of the O & C lands, to erect boundaries around 'sustained yield forest units' for the support of communities dependent upon timber processing for their stability, and in doing so, to give particular attention to existing—remember, this was in 1937 in Oregon—lumber industry."

Rogers says that: "A better device than the 1937 O & C act could hardly have been concocted to freeze the 'ins' in and keep the 'outs' out, public timberwise."

The application of the act did not come until 1947 when under the di-

rection of Assistant Secretary C. Girard Davidson, most of western Oregon was divided into twelve "marketing areas" each backed by a "master unit" of O & C timber. A provision was inserted in O & C timber sales contracts that no O & C timber can be processed outside the "marketing area." There has been, I believe, some relaxation on this, particularly on salvage sales, but the "marketing area" restriction still stands on the usual sales of timber.

What vexes Rogers is that mills down the Columbia River to Astoria were denied access to this O & C timber, while Dallas, Ore., "was not in just one, but two, O & C marketing areas." He reports that Clatsop County has petitioned the Secretary of the Interior to set aside the marketing area boundaries. He argues for the repeal of the 1947 order on the ground that "it is offensive to the American system of government that by selling government property to one and withholding it from another, not on a basis of what he will pay for it or do with it, but on some 'social' basis, one business should die and another survive."

Rogers also takes a swipe at the "cutting circle" or "cooperative agreement" which has been established in a few places. Under this plan public timber is reserved for a particular company which pledges to manage its own timber lands in conformity with an overall plan. The company is able to purchase the timber at an appraised price rather than by competitive bidding. The Simpson operation at Shelton, Wash., is pointed to as one which has stabilized the community and encouraged investment for maximum utilization. A similar plan was projected for the Fischer Bros. operation at Marcola by the O & C administration; but so loud were the protests raised by small mills at a hearing in Eugene in 1948 that nothing ever came of it. Not long ago the Forest Service turned down

a similar proposal urged for a mill in the Hood River section.

However, very plausible arguments can be offered for the cooperative agreement program. Just now Bend interests are fighting a proposal to erect a mill at Crescent Lake to tap national forest timber in the high Cascades because they fear it would hurt Bend by endangering a log supply for its mills and those at Redmond and Sisters. On the other hand Pope and Talbot built a big mill at Oakridge, certainly on the prospect of getting a big share of the national forest timber in that area.

I have not been sympathetic with narrow localizing of areas for processing of public timber, and have pointed out in the past that the important matter was the best use of the timber itself. Some logs are suitable for peelers and should go to plywood mills. Other logs may find their best use for pulp—and you can't move pulp and paper mills to each marketing area. Some logs may be best used for furniture; others like myrtlewood for specialty products which may include veneer stock. The timber should seek its best use, and that is reflected by the best market.

However, except for special purpose use Oregon timber will be most economically handled by mills fairly close to the source of supply. It has been the long haul which has forced mills to close down; and if O & C timber were thrown open to all bidders that would not assure mills at Astoria or Longview a steady supply of logs.

It seems to me that Rogers builds a strong case for dropping the marketing area restrictions in O & C contracts. Since the timber is publicly owned it ought to be available to the public on common terms. However, I would not go so far as to say that no cooperative agreements should be entered into by the government. In some instances they appear to have merit.



America has the biggest trees in the world, AFA's Big Tree Contest reveals. Giant among the giants is this big Sequoia in General Grant Park, California

THESE ARE THE CHAMPS

FORTY-ONE states and the District of Columbia have one or more species champions of the 318 that have been crowned as the result of the 1955 revised report on Big Tree champions, the fourth revision since The American Forestry Association inaugurated the contest in 1940 to halt the tragic disappearance of America's most magnificent tree specimens.

California and Maryland tie for first place with 41 champions each. Oregon is next with 27 followed closely by Illinois with 24. Next in line is Missouri with 22, Tennessee with 19, Indiana with 15, and Pennsylvania with 13; and the State of Washington with 12. Others with five or more species champions are Ohio, nine; Arkansas, North and South Carolina, with seven each; Florida, Mississippi and Wisconsin, with six each; and New Jersey with five. Thus 17 states have five or more national champions.

California's Giant Sequoia (General Sherman) still holds its title of Champion of Champions. This is the biggest tree in the United States with a circumference of 101 and a half feet around (diameter breast

high). To California also goes the championship for the second biggest tree in the nation with its lofty 300-foot high redwood. As a matter of fact, California this year walked off with 13 of the top spots for the 25 largest trees in the country. In addition to its Giant Sequoia and redwood, California's champs in the first 25 are: Sierra Juniper, No. 8; Canyon Live Oak, No. 11; Bristlecone pine, No. 13; White Fir, No. 14; California Planetree (Sycamore) No. 18; Bigcone Douglasfir, No. 19; Red Fir, No. 20; Pacific Hemlock, No. 22; California White Oak, No. 23; and Moreton Bay Fig. No. 25.

The state of Washington grabbed off the Number 3, 4 and 5 spots respectively in the first 25 for its Giant Arborvitae, Common Douglasfir and Sitka Spruce champions—the biggest in their classes. Washington's Noble Fir champion also ranks as the 9th largest tree in the country.

Tennessee claims seventh place in the first 25 for its champion Baldcypress and No. 15 for its American Elm. Louisiana is 10th with its live oak. Oregon comes in at 12th place in the first 25 with its Lawson Falsecypress and again at 16th for its ponderosa pine. Idaho is 17th with its western white pine. The other two

◀ **Champ of champs. California's General Sherman Sequoia—biggest tree in USA**

biggest trees in this largest 25 are in Maryland. Her big white oak ranks No. 21 and her southern red oak No. 24.

California's General Sherman Sequoia and her 300-foot high redwood rank as the largest trees in circumference and the tallest respectively. Louisiana gets credit for the tree with the greatest average diameter of spread. Her live oak, the largest hardwood on the list, has a crown spread of 168 feet. Smallest champion in the list of 318—but still a champion—is Indiana's American elder.

Launched in 1940 to halt the disappearance of more and more champions, the AFA program has served to focus attention on the benefits of conserving these cherished landmarks. The search for big trees is more than just a contest although participants from every state in the

union have made it a lively affair. While the search is in a sense competitive it is also cooperative and by that fact becomes more of a nationwide project than a localized vying for honors. Nor is this search a mere temporary gesture because the efforts behind it are continuous and the benefits received may well run into the centuries to come.

The Big Tree campaign is not to be confused with the Association's Hall of Fame project which was inaugurated in 1920 after widespread planting of memorial trees had made people more tree conscious. In nominating a candidate for the Hall of Fame, size has no particular significance. Only those trees authentically connected with history such as "The Charter Oak" at Hartford, Connecticut, and the "Treaty Oak" at Washington, D. C., are given recognition.

In the Big Tree contest, on the other hand, size alone is the determining factor. Determination of size is based on three key points, the AFA formula states. These are circumference (diameter breast high), height and crown spread of a contender. And since failure to follow the basic rules may have cost 10 or more entries a championship in the latest competition, it is suggested that future applicants make sure that they report ALL THREE dimensions called for. For example, Maryland's famous Wye Oak was seriously challenged by a western oak in the latest contest and failure of the contender to provide his tree's crown spread may have cost him a championship. (For more details on how to determine the circumference, height and crown spread of a tree write for AFA's "How to Measure a Tree.")

Report on American Big Trees

In September 1940, The American Forestry Association launched a campaign to locate the largest living specimens of American trees. After 15 years of diligent search by cooperating individuals, the following list of "champions" are on record as of June 1, 1955. Common and botanical names listed conform to "Standardized Plant Names" (2nd Edition—1942) issued by the American Joint Committee on Horticultural Nomenclature. Identification and measurements are by nominators. The challenge is to locate trees larger than those listed, if they exist, and also giants of species not listed. Send all reports to The American Forestry Association, 919 Seventeenth Street, N. W., Washington 6, D. C.

Species	Circumference at 4½ feet	Height	Spread	Location of Tree and Nominator
AILANTHUS				
*Tree of Heaven, <i>Ailanthus altissima</i>	14'8"	98'	88'	Property of L. O. Hodges, Davidsonville, Maryland. F. W. Besley, Laurel.
ALDER				
Hazel, <i>Alnus rugosa</i>	1'1"	27'	20'	Hot Springs National Park, Arkansas. Kendall Laughlin, Chicago, Illinois.
Red, or Oregon, <i>Alnus rubra</i>	8'10"	98'	35'	Olympic National Park, Washington. Robert L. Wood, Poulsbo.
Seaside, <i>Alnus maritima</i>	3'5½"	78'	50'	Rock Creek Park, Washington, D. C. Ernest H. Van Fossan, Washington, D. C.
Sierra, or White, <i>Alnus rhombifolia</i>	11'3"	93'	45'	Angeles National Forest, California. Will H. Thrall, Alhambra and Clark Vernon, Downey.
Sitka, <i>Alnus sinuata</i>	1'2"	—	—	Saddle Mountain State Park, Clatsop County Oregon. Oliver V. Matthews, Salem.
Speckled, <i>Alnus incana</i>	1'7"	31'	14'	Dunes State Park, Indiana. Kendall Laughlin, Chicago, Illinois.
ARBORVITAE				
Eastern, or Northern White-Cedar <i>Thuja occidentalis</i>	15'6"	125'	50'	Natural Bridge, Virginia. F. C. Pederson (Deceased).
Giant, or Western Redcedar, <i>Thuja plicata</i>	66'1"	130'	55'	Olympic National Park, Washington. Floyd L. Dickinson, Port Angeles.
ASH				
Black, <i>Fraxinus nigra</i>	8'8"	79'	39'	Chippewa County Forest, Wisconsin. M. E. Reinke, Chippewa Falls.



Largest white oak in nation is Maryland's famous Wye Oak at Wye Mills with a circumference of over 27 feet



Champion American Beech at Morrisville, Pennsylvania, was nominated by Dr. Paul M. Fluck (above) from New Jersey

Blue, <i>Fraxinus quadrangulata</i>	10'3"	116'	62'	Funk's Grove, Illinois. Kendall Laughlin, Chicago, Illinois.
Flowering—(see Fringetree)				
Green, <i>Fraxinus pennsylvanica lanceolata</i>	13'10"	106'	79'	Big Oak Tree State Park, Missouri. Kendall Laughlin, Chicago, Illinois.
Mountain—(see Mountainash)				
Oregon, <i>Fraxinus oregona</i>	18'	---	---	Near Burlington, Oregon. T. J. Starker, Corvallis.
Prickly—(see Pricklyash)				
Pumpkin, <i>Fraxinus tomentosa</i>	11'	70'	35'	Big Oak Tree State Park, Missouri. Jeffrey R. Short, Jr., Chicago, Illinois.
Red, <i>Fraxinus pennsylvanica</i>	11'	44'	45'	Near Easton, Maryland. F. W. Besley, Laurel.
Velvet, <i>Fraxinus velutina</i>	5'4"	44'	46'	Twin Falls, Idaho. Harold C. Hallock, Twin Falls.
White, <i>Fraxinus americana</i>	22'3"	80'	82'	Glenn Mills, Pennsylvania. S. Glidden Baldwin, Danville, Illinois.
ASPEN				
Bigtooth, <i>Populus grandidentata</i>	7'3½"	69'	38'	Gratiot County, Michigan. Allen H. Boelter, Saginaw.
Quaking, <i>Populus tremuloides</i>	9'10"	76'	---	Cedar Mountain, Utah. James D. Curtis, Idaho City, Idaho.
BALDCYPRESS				
*Common, <i>Taxodium distichum</i>	39'8"	122'6"	47'	Middle Fork of Obion River in Weakley County, Tennessee. James M. Thomas, Hazel, Kentucky.
BASSWOOD—(see Linden)				
BEECH				
American, <i>Fagus grandifolia</i>	15'2"	108'	106'	Cumberstone, Maryland. F. W. Besley, Laurel.
Carolina, <i>Fagus grandifolia caroliniana</i>	12'10"	126'	---	West Feliciana Parish, Louisiana. Lazella Schwarten, Jamaica Plain, Massachusetts.
BIRCH				
Gray, <i>Betula populifolia</i>	7'3"	60'	51'	Near Clarksville, Maryland. F. W. Besley, Laurel.

Paper, <i>Betula papyrifera</i>	4'7"	---	---	Lawrenceville, New Jersey. C. W. Schisler, Trenton.
River, <i>Betula nigra</i>	12'4"	98'	72'	Near Odenton, Maryland. F. W. Besley, Laurel.
Sweet, <i>Betula lenta</i>	10'10"	60'	60'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
Water, <i>Betula fontinalis</i>	1'10"	---	---	Wasco County, Oregon. Oliver V. Matthews, Salem.
Yellow, <i>Betula lutea</i>	14'1"	90'	64'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
BLACKGUM—(see Tupelo)				
BOXELDER <i>Acer negundo</i>	15'5"	73'4"	40'	Near Spring Brook State Park, Ohio. O. E. Files, Toledo.
BUCKEYE California, <i>Aesculus californica</i>	12'9"	35'	40'	Shafter Ranch, Olema, California. R. H. Menzies, San Francisco.
Ohio, <i>Aesculus glabra</i>	8'1"	90'	60'	Cascade Park, Elyria, Ohio. O. E. Files, Toledo.
Sargent Ohio, <i>Aesculus glabra sargenti</i>	4'4"	48'	32'	Elms Hotel, Excelsior Springs, Missouri. Kendall Laughlin, Chicago, Illinois.
*Yellow, <i>Aesculus octandra</i>	15'11"	85'	54'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
BUCKTHORN Carolina, <i>Rhamnus caroliniana</i>	9"	---	---	Gatlinburg, Tennessee. S. Glidden Baldwin, Danville, Illinois.
*Cascara, <i>Rhamnus purshiana</i>	9'5"	60'	---	Near Rockport, Washington. T. J. Starker, Corvallis, Oregon.
Common, <i>Rhamnus cathartica</i>	4'6"	32'	34'	State College, Pennsylvania. H. H. Arnold, State College.



Maryland's champion black cherry spreads 77 feet. It was nominated by F. W. Besley



Tennessee claims the nation's biggest American elm at Trigenia, Blount County



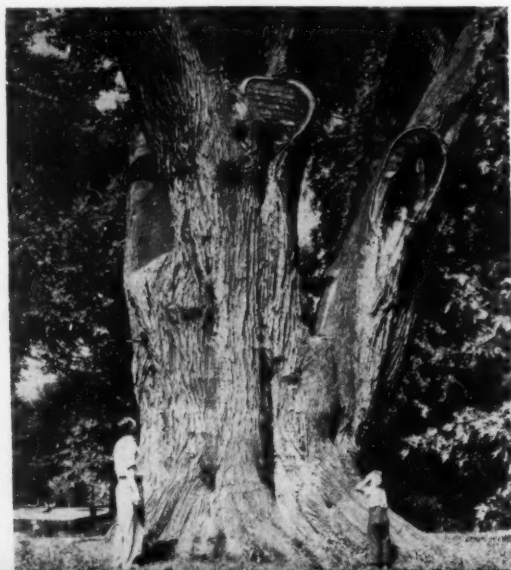
Champion Bristlecone pine is located in California's Inyo National Forest

Glossy, <i>Rhamnus frangula</i>	10"	22'	17'	Chechupinqua Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
BUFFALOBERRY *Silver, <i>Shepherdia argentea</i>	2'7"	18'	18'	Mahheur County, Oregon. Oliver V. Matthews, Salem.
BUMELIA Buckthorn, <i>Bumelia lycioides</i>	3'5½"	40'	30'	Vulcan, Iron County, Missouri. George O. White, Jefferson City.
Woolybucket, or Gum, <i>Bumelia lanuginosa</i>	5'3"	55'	30'	Salter Lake, near Binger, Oklahoma. Floyd Clay, Alfalfa.
BURNINGBUSH—(see Wahoo) BUTTERNUT; WHITE WALNUT <i>Juglans cinerea</i>	11'	75'	70'	St. Joseph County, Michigan. Louis Miller, Cassopolis.

Species	Circumference at 4½ feet	Height	Spread	Location of Tree and Nominator
BUTTONBUSH				
*Common, <i>Cephalanthus occidentalis</i>	1'11"	14'	16'	South of Lisle, Illinois. Kendall Laughlin, Chicago.
CALIFORNIALAUREL				
* <i>Umbellularia californica</i>	36'9"	—	—	Near Eleanor, Humboldt County, California. T. J. Starker, Corvallis, Oregon.
CATALPA				
*Northern, <i>Catalpa speciosa</i>	19'4"	45'	70'	Near Ellicott City, Maryland. F. W. Besley, Laurel.
CEDAR —(see Arborvitae, Incensecedar, Falsecypress, Redcedar)				
CHERRY				
Bitter, <i>Prunus emarginata</i>	5'5"	—	—	Near Crown Point, Oregon. Oliver V. Matthews, Salem.
Black, <i>Prunus serotina</i>	18'4"	64'	77'	Near Worton, Maryland. F. W. Besley, Laurel.
Choke—(see Chokecherry)				
Laurel—(see Laurelcherry)				
Pin, <i>Prunus pensylvanica</i>	4'7"	70'	20'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
CHESTNUT				
American, <i>Castanea dentata</i>	7'10"	55'	47'	Caledonia, Trempealeau County, Wisconsin. W. E. Scott, Madison.
CHINABERRY				
* <i>Melia azedarach</i>	10'6"	51'	53'	Near Orangeburg, Orangeburg County, South Carolina. C. W. Hall, Columbia.
CHINKAPIN				
Evergreen—(see Evergreenchinkapin)				
Ozark, <i>Castanea ozarkensis</i>	10'4"	52'	75'	Near Fayetteville, Washington County, Arkansas. Harold A. Howell, Little Rock.
CHOKECHERRY				
Common, <i>Prunus virginiana</i>	1'7"	44'	17'	White Pines State Park, Illinois. Kendall Laughlin, Chicago.
Western Common, <i>prunus virginiana demissa</i>	2'10"	—	—	Near Yamhill, Yamhill County, Oregon. Oliver V. Matthews, Salem.
COFFEETREE				
*Kentucky, <i>Gymnocladus dioica</i>	12'6"	75'	75'	Near Madison, Ohio. Newton G. Armstrong, Cleveland.
COTTONWOOD —(see Poplar)				
CRABAPPLE				
Lanceleaf, <i>Malus lancifolia</i>	1'7"	24'	23'	Blue Valley Park, Kansas City, Missouri. Kendall Laughlin, Chicago, Illinois.
Oregon, or Western, <i>Malus fusca</i>	5'4"	—	—	On the Nehalem River, Clatsop County, Oregon. Oliver V. Matthews, Salem.
Prairie, <i>Malus ioensis</i>	4'3"	27'	32'	Morton Arboretum, Lisle, Illinois. Kendall Laughlin, Chicago, Ill.
Wild Sweet, <i>Malus coronaria</i>	11"	21'	17'	Dunes State Park, Indiana. Kendall Laughlin, Chicago, Illinois.
CRAPEMYRTLE				
*Common, <i>Lagerstroemia indica</i>	6'6"	30'	—	Stateburg, South Carolina. Mrs. Walter C. White, Stateburg.
CYPRESS				
Arizona, <i>Cupressus arizonica</i>	17'3"	91'	—	Coronado National Forest, near Tucson, Arizona. James L. Mielke, Albuquerque, New Mexico.
False—(see Falsecypress)				
Modoc, <i>Cupressus bakeri</i>	10'2"	110'	—	Near Miller Lake, Oregon. Oliver V. Matthews, Salem.

Species	Circumference at 4½ feet	Height	Spread	Location of Tree and Nominator
Monterey, <i>Cupressus macrocarpa</i>	11'	105'	—	Belmont, San Mateo County, California. Woodbridge Metcalf, Berkeley.
DEVILS-WALKINGSTICK				
* <i>Aralia spinosa</i>	2'1"	30'	12'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Dan- ville, Illinois.
DOGWOOD				
Flowering, <i>Cornus florida</i>	5'4"	30'	42'	Near Oriole, Somerset County, Maryland. F. W. Besley, Laurel.
*Pacific, or Western, <i>Cornus nuttalli</i>	6'11"	100'	45'	Milwaukie, Clackamas County, Oregon. Oliver V. Matthews, Salem.
Pagoda, <i>Cornus alternifolia</i>	1'3"	—	15'	Pennsylvania State University, State Col- lege, Pennsylvania. H. H. Arnold, State College.
Roughleaf, <i>Cornus asperifolia</i>	1'	19'	13'	Mt. Washington Cemetery, Jackson Coun- ty, Missouri. Kendall Laughlin, Chicago, Illinois.
DOUGLASFIR				
Bigcone, <i>Pseudotsuga macrocarpa</i>	23'	173'	100'	Angeles National Forest, California. W. I. Hutchinson, San Francisco.
Common, <i>Pseudotsuga taxifolia</i>	53'4"	221'	61'	Olympic National Park, Washington. Pres- ton P. Macy, Longmire.
ELDER				
American, <i>Sambucus canadensis</i>	9"	13'	12'6"	Dunes State Park, Indiana. Kendall Laughlin, Chicago, Illinois.
Blackbead, <i>Sambucus melanocarpa</i>	2'2"	30'	—	Near Prescott, Columbia County, Oregon. Oliver V. Matthews, Salem.
Blueberry, <i>Sambucus cerulea</i>	8'5"	—	—	Near San Rafael, Marin County, Califor- nia. Philip C. Knapp, San Francisco.
Pacific Red, <i>Sambucus callicarpa</i>	2'5"	—	—	On Shoalwater Bay, Pacific County, Wash- ington. Oliver V. Matthews, Salem, Ore.
ELM				
American, or White, <i>Ulmus americana</i>	24'7"	160'	147'	Near Trigonía, Blount County, Tennessee. Edgar Calhoun, Kingsport.
Rock, <i>Ulmus thomasi</i>	19'10"	103'6"	—	Near Atchison, Kansas. Edgar Linton, Kansas City, Missouri.
September, <i>Ulmus serotina</i>	6'1"	58'	46'	Glenwood, Arkansas. Kendall Laughlin, Chicago, Illinois.
Slippery, <i>Ulmus fulva</i>	16'5"	75'	75'	Allegheny County, Pennsylvania. Mrs. E. J. Mason, Pittsburgh.
EUONYMUS—(see Wahoo)				
EVERGREENCHINKAPIN				
*Giant, <i>Castanopsis chrysophylla</i>	15'3"	127'	—	Near Annapolis in Sonoma County, Cali- fornia. Arnold F. Wallen, Oakland.

Down and out. All the arts of tree surgery failed to save the famous Weathersfield elm which died in 1950



A champion pin oak gets a checkup. Big Tree Contest has stressed care and maintenance of tree monarchs



FALSECYPRESS

Lawson, or Port Orford Whitecedar, <i>Chamaecyparis lawsoniana</i>	27'2"	200'	---	Squaw Creek, Coos County, Oregon. Oliver V. Matthews, Salem.
Nootka, or Alaska Yellowcedar, <i>Chamaecyparis nootkatensis</i>	21'	175'	27'5"	Olympic National Park, Washington. Robert L. Wood, Poulsbo.
Whitecedar, or Atlantic Whitecedar, <i>Chamaecyparis thyoides</i>	10'5"	60'	25'	Near Milford, Delaware. W. S. Taber, Dover.

FARKLEBERRY

* <i>Vaccinium arboreum</i>	1'6"	15'	13'	Burnham Mountain, Glenwood, Arkansas. Kendall Laughlin, Chicago, Illinois.
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FIG

Florida Strangler, <i>Ficus aurea</i>	19'6"	72'	70'	Matheson Hammock, Florida. Albert A. Schory, Ft. Myers, and Roy Woodbury, Coral Gables.
Moretonbay, <i>Ficus macrophylla</i>	29'6"	65'	140'	Santa Barbara, California. Will H. Thrall, Alhambra.

FIR

Balsam, <i>Abies balsamea</i>	9'	75'	42'	Pocomoke City, Maryland. William L. Dennis (Deceased).
Fraser Balsam, <i>Abies fraseri</i>	6'7"	---	---	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
Cascades, or Pacific Silver, <i>Abies amabilis</i>	21'5"	186'	38'	Olympic National Park, Washington. Floyd L. Dickinson, Port Angeles.
Douglas—(see Douglasfir) Grand, <i>Abies grandis</i>	22'4"	175'	40'	Mt. Rainier National Park, Washington. Robert L. Wood, Poulsbo.



Champion white fir in Yosemite National Park



Tennessee's champion Baldcypress is 140 feet high



Washington State's champion Noble fir is 280 feet high



Boise, Idaho, claims the champ western white pine

Noble, <i>Abies procera</i>	22'8"	260'	35'	Columbia National Forest, Washington. Thornton T. Munger, Portland, Ore.
Red, or California Red, <i>Abies magnifica</i>	25'3"	168'	---	Lassen Volcanic National Park, California. J. V. Lloyd, Lassen Volcanic National Park.
Shasta Red, <i>Abies magnifica shastensis</i>	19'6"	174'	---	Lassen National Forest, California. T. J. Starker, Corvallis, Oregon.
White, <i>Abies concolor</i>	25'5"	189'	---	Yosemite National Park, California. John B. Wosky, Yosemite National Park.

FORESTIERA

*Texas, or Swamp-Privet, <i>Forestiera acuminata</i>	1'8"	32'	30'	Big Oak Tree State Park, Missouri. Kendall Laughlin, Chicago, Illinois.
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Species	Circumference at 4½ feet	Height	Spread	Location of Tree and Nominator
FRINGETREE				
*White, or Flowering Ash, <i>Chionanthus virginicus</i>	4'8"	60'	62'	National Zoological Park, Washington, D. C. Ernest H. Van Fossan, Washington, D. C.
GUM (see Sweetgum and Tupelo)				
HACKBERRY				
Common, <i>Celtis occidentalis</i>	16'3"	88'	59'	Near Oriole, Somerset County, Maryland. F. W. Besley, Laurel.
Dog, <i>Celtis occidentalis canina</i>	17'8"	102'	79'	New Harmony, Indiana. Eugene Cypert, Jr., Paris, Tennessee.
Douglas, or Western, <i>Celtis douglasi</i>	4'4"	—	—	Portland, Oregon. Oliver V. Matthews, Salem.
Sugar, <i>Celtis laevigata</i>	15'3"	60'	90'	Florence, Alabama. Robert A. Campbell, Norris, Tennessee.
HAWTHORN				
Cockspur, <i>Crataegus crusgalli</i>	2'6"	19'	29'	Turnbull Woods West Glencoe, Illinois. Kendall Laughlin, Chicago.
<i>Crataegus depilis</i>	1'4"	22'	17'	Glenview Memorial Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
<i>Crataegus disperma</i>	2'5"	23'	26'	Schiller Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
<i>Crataegus leucantha</i>	1'1"	25'	17'	Chechupinqua Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
<i>Crataegus pentandra</i>	1'11"	22'	12'	Schiller Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
Dotted, <i>Crataegus punctata</i>	4'10"	21'	35'	Billy Caldwell's Reserve, Chicago, Illinois. Kendall Laughlin, Chicago.
Yellow Dotted, <i>Crataegus punctata aurea</i>	5'1"	31'	43'	Billy Caldwell's Reserve, Chicago, Illinois. Kendall Laughlin, Chicago.
Douglas, or Black, <i>Crataegus douglasi</i>	4'11½"	30'	25'	Near Macleay, Marion County, Oregon. Oliver V. Matthews, Salem.
Downy, <i>Crataegus mollis</i>	7'7"	29'	49'	Camp Ground Road Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
Hills, <i>Crataegus hilli</i>	3'10"	36'	35'	Thatcher Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
Ontario, or Scarlet, <i>Crataegus pedicellata</i>	2'6"	25'	27'	Glenview Memorial Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
Pear, <i>Crataegus calpodendron</i>	1'1"	23'	19'	Harms Woods, Cook County, Illinois. Kendall Laughlin, Chicago.
Washington, <i>Crataegus phaenopyrum</i>	2'9"	25'	23'	Near Burnt Mill, Montgomery County, Maryland. F. W. Besley, Laurel.
HEMLOCK				
Canada, or Eastern, <i>Tsuga canadensis</i>	19'9"	98'	69'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
Carolina, <i>Tsuga caroliniana</i>	9'4"	—	—	Dunn's Rock, N. C. Graham M. Watts, Athens, Georgia
Mountain, <i>Tsuga mertensiana</i>	21'9"	118'	83'7"	Alpine County, California. Allen F. Miller, Sonora.

Uneasy is the head that wears a crown. This lovely live oak champion has been dethroned



Hahnville, Louisiana claims the new live oak champion shown below



The Hahnville live oak has a girth of 35 feet and a spread of 166 feet



Pacific, or Western, <i>Tsuga heterophylla</i>	27'2"	125'	47'6"	Olympic National Park, Washington. Preston P. Macy, Longmire.
HERCULESCLUB (see Devils-Walking-stick, Pricklyash)				
HICKORY				
Arkansas Black, <i>Carya texana arkansana</i>	6'9"	95'	43'	Rose Inn, Crossett, Arkansas. Kendall Laughlin, Chicago, Illinois.
Bitternut, <i>Carya cordiformis</i>	12'6"	171'	---	West Feliciana Parish, Louisiana. Lazella Schwarten, Jamaica Plain, Massachusetts.
Mockernut, <i>Carya tomentosa</i>	9'6"	146'	52'	Turkey Run State Park, Indiana. Jeffrey R. Short, Jr., Chicago, Illinois.
Pignut, <i>Carya glabra</i>	14'9"	---	---	Near Crosswicks, New Jersey. H. Gleason Mattoon, Philadelphia, Pennsylvania.
Red, <i>Carya ovalis</i>	13'4"	145'	45'	Norris Reservoir, Tennessee. Keith D. Lange, Norris.
Shagbark, <i>Carya ovata</i>	9'8"	127'	50'	Turkey Run State Park, Indiana. Jeffrey R. Short, Jr., Chicago, Illinois.
Littlenut Shagbark, <i>Carya ovata nuttalli</i>	5'8"	55'	30'	Near Burtonsville, Maryland. F. W. Besley, Laurel.
Shellbark, <i>Carya laciniosa</i>	12'9"	128'	70'	Big Oak Tree State Park, Missouri. Kendall Laughlin, Chicago, Illinois.
Water, <i>Carya aquatica</i>	10'7"	120'	68'	Near Camden, South Carolina. Henry Savage, Jr., Camden.
HOLLY (see also Possumhaw, Winter-berry)				
*American, <i>Ilex opaca</i>	11'1½"	72'	45'	Pamlico County, North Carolina. John L. Gray, Raleigh.
HONEYLOCUST				
Common, <i>Gleditsia triacanthos</i>	18'9"	92'	112'	Near Queenstown, Maryland. F. W. Besley, Laurel.
HOPHORNBEAM				
*American, <i>Ostrya virginiana</i>	9'6"	70'	57'	Near Winthrop, Maine. J. R. Hansbrough, Upper Darby, Pennsylvania.
HOPTREE				
*Common, <i>Ptelea trifoliata</i>	1'	15'	19'	George Rogers Clark Reserve, Cook County, Illinois. Kendall Laughlin, Chicago.
HORNBEAM				
*American, or Blue Beech, <i>Carpinus caroliniana</i>	5'7"	48'	52'	Near Princess Anne, Maryland. F. W. Besley, Laurel.
INCENSECEDAR				
California, <i>Libodendrus decurrens</i>	36'	---	---	Rogue River National Forest, California. Oliver V. Matthews, Salem, Oregon.
JUNGLEPLUM				
<i>Sideroxylon foetidissimum</i>	8'9"	56'	30'	Matheson Hamock, Florida. Elbert A. Schory Sr., Ft. Myers, and Roy Woodbury, Coral Gables.

This Giant Arborvitae was one of the runners up in current contest



This Maryland Tuliptree was best in its class, stands 83 feet high



Species	Circumference at 4½ feet	Height	Spread	Location of Tree and Nominator
JUNIPER				
Alligator, <i>Juniperus pachyphloea</i>	19'11"	71'	70'	Coronado National Forest, New Mexico. Rex King, Albuquerque.
Common, <i>Juniperus communis</i>	10"	16'	4'	Dunes State Park, Indiana. Kendall Laughlin, Chicago, Illinois.
Rocky Mountain, or Utah, <i>Juniperus scopulorum</i>	26'8"	45'	---	Cache National Forest, Utah. R. P. McLaughlin, Logan.
Sierra, <i>Juniperus occidentalis</i>	42'	81'	51'	Stanislaus National Forest, California. J. R. Hall, Sonora.
KALMIA				
Mountainlaurel, <i>Kalmia latifolia</i>	3'6"	25'	45'	Great Smoky Mountains National Park, Tennessee. Arthur Stupka, Great Smoky Mountains National Park.
LARCH				
Eastern, or Tamarack, <i>Larix laricina</i>	11'5"	60'	60'	Chaplin, Connecticut. A. E. Moss and Floyd M. Callward, Storrs.
Western, <i>Larix occidentalis</i>	24'	120'	36'8"	Near Kootenai National Forest, Montana. Elers Koch, Missoula.
LAUREL—(see Californialaurel, Kalmia)				
LAURELCHERRY				
Carolina, <i>Prunus caroliniana</i>	9'10"	55'	48'	Near Eutawville, South Carolina. F. K. Bull, Pinopolis.
LINDEN; BASSWOOD				
*American, <i>Tilia americana</i>	16'5"	106'	75'	Camelback Mountain, Monroe County, Pennsylvania. George W. Raish, Tannersville.
Beetree, or White, <i>Tilia heterophylla</i>	13'9"	80'	61'	Near Little Switzerland, North Carolina. W. L. Beasley, Carthage.
Florida, <i>Tilia floridana</i>	9'9"	111'	54'	Whittington Park, Hot Springs, Arkansas. Kendall Laughlin, Chicago, Illinois.
Littleleaf, <i>Tilia cordata</i>	9'1"	45'	57'	Laurel, Maryland. F. W. Besley, Laurel.
*Palmer, <i>Tilia palmeri</i>	7'7"	61'	47'	Scarritt Point, Kansas City, Missouri. Kendall Laughlin, Chicago, Illinois.
LOCUST				
Black, <i>Robinia pseudoacacia</i>	15'11"	85'	60'	Near Jefferson, Indiana. N. A. Miller, Frankfort.
Honey.—(see Honeylocust)				
LYSILOMA				
*Bahama, or Wild Tamarind, <i>Lysiloma bahamensis</i>	7'6"	48'	50'	Key Largo, Florida. Elbert A. Schory, Sr., Ft. Myers, and Roy Woodbury, Coral Gables.
MADRONE				
Pacific, <i>Arbutus menziesi</i>	27'8"	---	---	Humboldt County, California. R. H. Menzies, San Francisco.
MAGNOLIA				
Bigleaf, <i>Magnolia macrophylla</i>	6'7"	59'	64'	Baltimore, Maryland. F. W. Besley, Laurel.
Cucumbertree, <i>Magnolia acuminata</i>	18'4"	125'	60'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
Fraser, or Mountain, <i>Magnolia fraseri</i>	7'7"	65'	54'	Great Smoky Mountains National Park, Tennessee. S. Glidden Baldwin, Danville, Illinois.
Southern, <i>Magnolia grandiflora</i>	13'7"	52'	92'	Near Pascagoula, Mississippi. Paul M. Myers, Pascagoula.
Sweetbay, <i>Magnolia virginiana</i>	6'	67'	---	Near Camden, South Carolina. Henry Savage, Jr., Camden.
Umbrella, <i>Magnolia tripetala</i>	4'3"	---	---	Lawrenceville, New Jersey. C. W. Schisler, Trenton.
MAHOGANY				
*WestIndies, <i>Swietenia mahagoni</i>	12'6"	70'	75'	Everglades National Park, Florida. Taylor R. Alexander, Coral Gables.

*Not listed in *Standardized Plant Names*—Name furnished by nominator
(To be continued)

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F. H. SANDERS, Mayor
Aliceville, Alabama



Fire Truck unit built by Howe Fire Apparatus Co. of Anderson, Ind. and recently delivered to Library Fire Dept., Library, Pa. Note INDIAN FIRE PUMPS mounted in place. More new trucks are coming through with INDIANS as specified equipment.

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Foresters to Hear Report on Timber Resources Review

PORTLAND, Oregon (Special)—First official report on the findings of the nationwide Timber Resources Review, recently completed by the U.S. Forest Service, will be given by chief forester R. E. McArdle at the 55th annual session of the Society of American Foresters, to be held in Portland, Oregon, October 16-19. Regional Forester J. Herbert Stone, U.S. Forest Service, Portland, is general chairman in charge of arrangements.

This special item on the program which features the theme "Converting Old Growth Forests," is one of several expected to draw some 1,000 professional foresters from the country's state, federal and private agencies to hear latest reports on what's new in tree growing and wood utilization, according to executive secretary Henry Clepper, Washington, D. C.

Other featured speakers will include: President Henry Schmitz, of the University of Washington; Arthur W. Greeley, regional forester, U.S. Forest Service, Alaska; E. P. Stamm, vice president, Crown Zellerbach Corporation and a member of AFA's board of directors; DeWitt Nelson, director, Department of Natural Resources, California; and Bernard L. Orell, vice president, Weyerhaeuser Sales Company, St. Paul, Minnesota.

Technical divisions on private forestry, silviculture, range management, forest products and others will meet separately during the three-day session. Special entertainment and other events planned include a style show and trip to Oregon's scenic Mt. Hood for wives of delegates, a "Fruits of the Land" outdoor barbecue feed, two days of guided field trips to tree farming

and wood utilization centers, and the Society's annual banquet.

In addition to Mr. Stamm, AFA will be represented at the convention by Lowell Besley, executive director-forester of the association. Full coverage will be provided for readers of *AMERICAN FORESTS* in the November issue by Mel Blais, *AMERICAN FORESTS* feature writer and a member of the staff of the *Portland Oregonian*.

Watershed Congress Set

St. Louis, Mo.—Final plans for a second National Watershed Congress to focus public attention on the merit of upstream flood prevention through soil and water conservation, forestry, and small dams, were completed last month by representatives of agriculture, industry, labor and government. The Congress will be held in Washington, D. C., December 5-6 at the Hotel Statler.

A major purpose of the second gathering of national conservation, business, and labor leaders will be to appraise progress made under the Hope-Aiken law, enacted by the 83rd Congress, which provides the federal cooperation with states and local subdivisions of government in planning and executing watershed treatment programs. Subjects to be covered by the Congress include soil and water conservation, forest and range protection and management, recreation, reclamation, drainage, municipal and industrial water supplies, flood prevention, wildlife betterment, and stream pollution.

Memorial For "Tama Jim"

Plans by the Iowa Chapter of the Society of American Foresters for a memorial to James "Tama Jim" Wilson, Secretary of Agriculture from 1897 to 1913, were announced last month by Professor George W. Thomson, of Iowa State College, Ames, Iowa. The memorial for the Secretary who served under Presidents McKinley, Roosevelt and Taft will be located in Tama County a locality the great secretary made famous. Foresters have long recognized President Roosevelt, Secretary Wilson and Gifford Pinchot, first chief forester, as the "fathers of forestry" in the United States, Prof. Thomson said. Therefore it is fitting that Iowa foresters follow through on the memorial for Mr. Wilson, he said.

American Forests to Salute the South

ASPECIAL 106-page issue of *AMERICAN FORESTS* will be published next month in conjunction with the 80th Annual Meeting of The American Forestry Association October 3-6 in Jacksonville, Florida. Complete news coverage of the convention which has as its theme, "Southern Forestry—An Industrial Revolution with Roots," will be presented in the November issue.

One of the most ambitious presentations ever undertaken by *AMERICAN FORESTS*, the October issue will attempt to dramatize southern forestry progress by state, federal and private agencies and, working in conjunction with southern publishers, will also present the forestry picture as seen through the eyes of outstanding southern editors. A feature will be an article by Walter C. Johnson, longtime director of the Southern Newspaper Publishers Association including a salute to outstanding editors who have contributed to southern forestry progress. In connection with this coverage, the new SNPA book "The South and its Newspapers" will be reviewed.

Special Florida coverage will include articles on its forests and parks and a special article "Research on the March" by Kenneth B. Pomeroy, of the Southeastern Forest Experiment Station, will include 21 striking black and white photographs taken for this issue. The fire problem will be explored in some detail and will include statements by various state foresters, including Joseph Kaylor, director of Maryland's Forests and Parks, and a former president of the Association of State Foresters. The final installment of Erle Kauffman's "The Southland Revisited" will include special pictorial treatment featuring southern industrial advance in this new era. Upon completion, this series will be released to editors and publishers throughout the United States in an effort to more fully acquaint thought molders with southern forestry progress.



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The Stearns Case—An Analysis

(From page 19)

each acre or fraction thereof to be affected by the operation.

The Stearns Coal and Lumber Company would expect to handle reclamation operations under the terms of this act, which would limit the expenditure for this purpose to \$250 per acre. The Chief Engineer of the Forest Service, however, estimates that reasonable reclamation measures would cost from \$1800 to \$3000 per acre of coal exposed and from \$800 to \$1500 per acre of disturbed land. These figures include engineering activities for the control of run-off as well as tree planting on spoil banks. The Forest Service is in a position to enforce its views under a provision in the deed that "all miners or mining operators shall make provision to the satisfaction of the forest officer in charge for preventing the obstruction, pollution, or deterioration of streams, lakes, ponds, or springs by tailings, dumpage or otherwise, or the escape of any harmful or deleterious material or substance from their mines or works."

While the cost of complying with requirements established by the Forest Service under this proviso might not run as high as that estimated by the Service, it certainly would exceed materially the \$250 per acre maximum fixed by the Kentucky law. This means that if strip mining were allowed at all it would have to be conducted under conditions that would reduce substantially the financial advantage on which the company is counting. Furthermore, it is hardly the function of the government to rescue a private investor from financial embarrassment, or even disaster, at the expense of the public interest. Risk is one of the inherent characteristics of the American system of private enterprise and free competition.

What effect denial of permission to conduct strip mining operations on the lands in question may have on the economy of Stearns and McCreary County is important but exceedingly difficult to determine. The Stearns Coal and Lumber Company is one of the two mainstays both of the town and of the county. Cessation of all mining activity by the company would be a distinct blow to the economy of the region. The company has, however, indicated its

intent to continue some deep mining, and one of the deep mines which it had been forced to close was reopened in 1954. When market conditions will permit further extension of deep-mining operations, no one knows. There is also considerable and increasing strip mining on private lands in the county.

Another important aspect of the problem is that strip mining employs fewer men per ton of coal removed than does deep mining. It also employs mostly machine operators and truck drivers rather than orthodox miners. Total employment under strip mining would

Revolting Fact

It's all thoroughly revolting but it's a fact that in the calendar year 1954 forest fire fighters throughout the United States attempted to cope with an average of 485 fires a day. In all, there were 176,891 forest fires which damaged more than 8,500,000 acres of forest resources including timber, wildlife and recreational advantages. As computed by the Forest Service, these shocking facts showed that forest fires increased 12 percent in 1954 compared to the previous years.

therefore be less than under deep mining for the same amount of coal. Furthermore, some of those employed might not come from the local labor supply, particularly if the company were to contract the strip mining, as has been suggested. For these reasons the United Mine Workers of America and some of the local miners are opposed to strip-mine operations in spite of their much greater safety. The other side of the picture is that some employment is better than no employment, which might result should the company be obliged to close down all of its deep mines.

From the standpoint of the economy of the region, the fundamental trouble is that the coal industry as a whole is today a sick industry. There is a profitable market only for so much coal. If one company and one region produce more, another company and another region may

have to produce less. The problem of how to rescue an industry from depression goes far beyond the scope of the Stearns case and will not be solved by any action taken by the government in that case.

The chief arguments against strip mining of the area are that it would have adverse effects on the water supply, on timber production, on wildlife, and on recreation in general, and that it would set a dangerous precedent. The rugged topography and the nature of the coal outcrop on the area involved necessitate "rim cutting," which is more destructive than strip mining on level land or more gentle slopes. The coal occurs in seams of varying thickness which are overlaid by sandstone and which outcrop on contour lines at different elevations above the stream bottoms. The seams may occur at the same elevation on both sides of a stream, but they are not continuous and disappear completely in places.

Mining is done by machine removal of the sandstone overburden and utilization of the underlying coal. The soil and rock removed in the first cut are thrown down the slope, which is usually steep, immediately below the outcrop. This material cannot be replaced, and uncertainty exists as to how promptly and effectively it can be reclaimed by tree planting. The debris from the second cut is thrown on the virtually level floor created by the first cut, and so on. This process is continued, usually for three to five cuts, until the depth of the overburden becomes so great as to make its further removal economically impracticable. At the farther end of the last cut is a man-made, roughly vertical cliff, which may run up to 40 or 50 feet, known as the "high wall." Planting and various engineering devices may be used to check erosion and to control run-off from the spoil banks created by the successive cuts; but there is practically nothing that can be done with the high wall.

In the 47,000 acres covered by the Stearns application, the company estimates that some two per cent, or about 1,000 acres, is of such character as to be suitable for strip mining. An additional 2,500 acres would, in the judgment of the Forest Service, be disturbed by the dis-

position of spoil and the sloughing of high walls, bringing the total area affected by strip-mining operations to some 3,500 acres. This area would not be concentrated in a few solid blocks, but would be scattered through the tract in ribbon-like strips, the aggregate length of which might be considerable.

Although comprehensive information is lacking, studies in West Virginia by the Forest Service and the Fish and Wildlife Service show a large increase in the sediment carried by streams from unreclaimed strip-mined areas as compared with streams from unstripped areas. This sediment is injurious to fish life in various ways, particularly by decreasing bottom fauna on which the fish feed, damaging spawning grounds, and interfering with fish respiration. Its long-run effect on the silting up of reservoirs may also be considerable.

Authorities differ widely as to the probable effect of strip mining on erosion, run-off, and siltation, and still more as to the cost and effectiveness of reclamation measures for the particular area under consideration. It is worth noting, however, that intensive studies elsewhere have

shown the amount of eroded material resulting from destruction of the vegetative cover to be greater than was believed to be the case on the basis of observations unsupported by instrumental measurements.

Most bituminous coal contains some sulphur, which in the presence of air and water forms sulphuric acid. This acid is contained in the water run-off from unsealed deep mines, from exposed seams of coal at the base of the high wall in strip mines, and sometimes from the spoil banks of strip mines. If excessive in amount, it causes more or less serious stream pollution, which may be injurious to plants and animals, particularly fish, and disagreeable to human beings.

Considerable concern has been expressed that the strip mining contemplated by the Stearns Coal and Lumber Company would result in dangerous pollution of the streams tributary to Cumberland Lake. The danger does not, however, appear to be great in view of the relatively low sulphur content (0.5 to 3 per cent) of the coal in this area. It is also generally agreed that acid contamination from properly handled strip mines is less than from deep mines.

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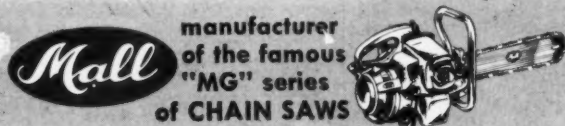
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Up to this time, acid pollution resulting from either deep mining or strip mining in this general region does not appear to have been serious.

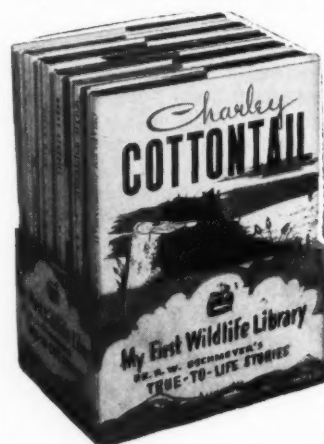
Although the area of 3,500 acres that might be involved is relatively small, the effect of strip mining on timber production cannot be ignored. Damage would result from the destruction of young growth, and logging operations would be made more difficult. The improvement in the quality of the forest that has taken place under Forest Service administration is impressive; and the contribution that timber from the national forests is now making to the economy of the region, and will make increasingly in the future, should not be underestimated.

The effect of strip mining on recreation from the aesthetic point of view is an item of major importance. Many people obtain the maximum amount of outdoor recreation and inspiration from unspoiled scenery, and such scenery undoubtedly adds to the enjoyment of hunters and fishermen in the pursuit of their favorite sport. Ever since 1932 when the Chief of the Forest Service issued instructions that the provision of recreational facilities should thereafter be regarded as one of its major activities, the preservation of scenic values has played a prominent part in its management activities. In the crowded eastern United States it is particularly important that national forests, as well as national parks, be so managed as to meet the need of a modern civilization for the re-creation of body and spirit in attractive surroundings.

The Appalachian Mountains and their adjacent ranges are especially well suited for this purpose. The destruction of the natural landscape caused by strip mining in rugged terrain is both serious and out of proportion to the area involved. Unsightly high walls cannot be hidden from view; spoil banks, even if in time successfully revegetated, lack the charm of the original cover and topography; and the mileage affected by rim cutting is much more significant from the aesthetic point of view than the acreage. These facts emphasize the dangers from the recreational standpoint of permitting strip mining on public lands. Even the best reclamation measures cannot completely repair the damage to aesthetic values, preservation of which is becoming increasingly important and difficult under the pres-

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Supporters of the request of the Stearns Coal and Lumber Company for permission to strip mine minimize the adverse effects emphasized by opponents of the request. They claim that with reasonable reclamation measures these effects would be of minor significance, and that in any event the area involved would be so small and scattered as to make them of negligible importance. It is also pointed out that strip mining on non-federal lands is on the increase, and that the disturbance of 3,500 acres, or less than half of one percent of the drainage of the Big South Fork of the Cumberland River, could have little influence on the over-all situation. The obvious answer to this argument is that the government has no business to make a bad situation worse even on a small scale.

The matter of precedent is one that has received considerable attention. It is argued that since the Forest Service now permits strip mining on the Wayne National Forest in Ohio there is no reason why it should not do so elsewhere. The counter argument is that conditions in Ohio and on national forests in the Appalachians are so completely different that no precedent is involved. In Ohio, topography is far less rugged and the proportion of federal ownership is much smaller. Although each case must be considered on its merits, there can be no doubt that the decision in the Stearns case will have a marked influence on the decisions reached in other cases where conditions are similar.

There are some 750,000 acres of national forests in Kentucky, West Virginia, and Virginia on which mineral rights were reserved by the sellers when the lands were acquired by the government. If two per cent of this area (15,000 acres) is suitable for strip mining, a total area

of some 50,000 to 60,000 acres would be affected by strip mining. All of this area is comparable in most respects to that involved in the Stearns case. It would be most difficult from the administrative point of view to grant the Stearns application and to deny the many other applications for similar permission which would undoubtedly be submitted if the Stearns request were approved.

The matter of precedent was strongly stressed by the State of West Virginia, which sent the Director of the Department of Conservation and the Assistant Attorney General to the hearing at Stearns on January 27 to oppose the granting of the appli-

cation of the Stearns Coal and Lumber Company. The Director of the Department of Conservation stated that, "In my opinion the action taken in this case will be precedent setting, and if this operator is permitted to strip-mine on the Cumberland National Forest it will result in the granting of permits on the Monongahela National Forest." He further expressed the belief that this would place the West Virginia tourist industry, the state's second largest industry, in serious jeopardy; and that permits to strip mine would be a complete reversal of the federal policies under which national forest lands were acquired and developed.



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Both West Virginia and Kentucky refuse to permit strip mining of coal in state forests or state parks. Both states have been successful in court actions in obtaining permanent injunctions against strip mining on state lands in which the mineral rights are privately owned. The Director of the Kentucky Department of Conservation in the hearing at Stearns expressed the belief that if the Department of Agriculture is to continue to operate the

47,000 acres under consideration as a national forest, it should certainly reject the company's application to conduct strip-mining operations on the land. "If it feels that it would be more suitable to strip mine, then they should put it up and sell it." Opposition to strip mining on national forests was also expressed by the Kentucky Department of Fish and Wildlife Resources.

So far as can be judged from correspondence and from testimony presented at the hearing, popular as well as official sentiment was strongly against the proposed strip mining. Some of this opposition was doubtless based on only partial information concerning the situation, and some was an emotional reaction to newspaper headlines such as "This Attempted Raid Should Be Stopped" and "Watershed Destruction Isn't Good Business." On the other hand, some of the most vigorous opposition came from well-informed and influential organizations such as the Izaak Walton League of America, the Wildlife Management Institute, the Sport Fishing Institute, the National Association of Soil Conservation Districts, and the United Mine Workers of America.

Most of the support for the company's request came from local organizations and individuals who regarded the proposed strip-mining operations as an important means of

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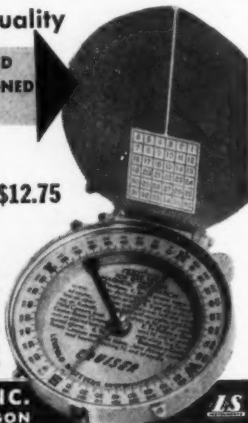
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bolstering the economy of McCreary County. Local opinion, however, was by no means unanimous. Sportsmen's organizations and garden clubs were uniformly opposed, as were also the University of Kentucky College of Agriculture, the Natural Bridge Park Association, the Kentucky Conservation Council, and the Kentucky Association of Soil Conservation Districts.

In spite of the current importance of coal in the economy of the region, it seems clear that its permanent prosperity will have to depend primarily on wise utilization of its forest, water, and recreational resources. The Secretary of Agriculture's refusal to grant the request of the Stearns Coal and Lumber Company evidently means that the Department regards it as unsound policy to jeopardize the future of these resources for the sake of a temporary, and at best problematical, alleviation of a difficult economic situation. The decision recognizes the fact that strip mining in the area in question would threaten the objectives for which the land was acquired, would be inconsistent with the government's broad and steadily

expanding program for watershed protection, and would not be in the over-all public interest.

The Stearns case constitutes an interesting problem in forest administration involving the principle of multiple use. It emphasizes the fact that the principle has its limitations, and that its effective application requires both skill and courage. Under the Secretary's decision, the Cumberland National Forest will continue to provide wood, water, wildlife, recreation, and minerals, but the utilization of coal will be by methods that do not endanger the other resources.

In conclusion, it should be recognized that the Secretary's action does not necessarily settle the matter. Administratively the case is closed, but not legally. The Stearns Coal and Lumber Company can still test in the courts its belief that strip mining is permissible under the terms of its deed to the government. Should the courts decide in its favor, then the Forest Service will have the responsibility of prescribing regulations for the conduct of strip-mining operations which will minimize the damage as far as practicable.

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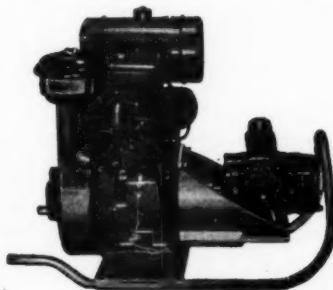
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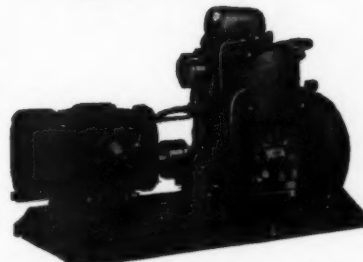
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Portrait of Maine Man

(From page 21)

obstructions in streams that might hinder spawning migrations is also part of the program. Agricultural practices that might lead to close grazing along stream banks are discouraged whenever possible, as the weeds and grass along the banks provide shade and insects for the fish.

Most Maine lakes are deficient in spawning areas and the construction of gravel beds for this purpose is one of the important goals of the conservation program. Fertilizing of some waters to increase plankton numbers is also a part of lake improvement work. Most game fish do not feed directly on the plankton organisms but they attract certain insects and also small minnows that supply food for game fish.

Maine has long been noted for its fine deer hunting and the conservation program includes measures that will assure the maintenance of good deer herds. In the "good old days" winter feeding of deer herds was standard practice, but present day thinking frowns on this practice which in the long run, makes a bad matter worse. Modern conservationists handle the feeding problem by strict herd control that keeps the deer numbers within the feeding capacity of the range.

In Maine, range control is accomplished by checking the age composition of the deer herds to learn whether the animals are being under-harvested or over-harvested. This, and a close study of fawn reproduction, determines the annual surplus that should be killed by hunters. Ovarian analysis, a study of deer antler growth, and a careful observation of winter "yard" conditions are also important features of the state's deer conservation efforts.

Maine has many active sportsmen's clubs that cooperate with the Fish and Game Department in carrying out the conservation program. Mr. Stanwood has always believed that such clubs are an important factor in conservation work, and he organized the Harrington Rifle Club in 1916. This club is affiliated with the National Rifle Association, and was one of the finest sportsmen's clubs in Maine. It lists such well-known names as former President Warren G. Harding, and Rudy Vallee on its roster. Stanwood, who is the all around fly casting champion

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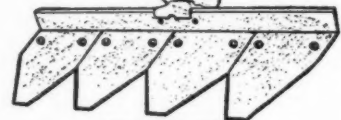
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SEE PAGE 60

of Maine has also organized several fly casting clubs.

Mr. Stanwood gives credit for much of the success of his "Big Chief" camps to his wife. He believes that Susie's good cooking has brought as many sportsmen back to Tunk Lake each year as has the hunting and fishing. She shares his love of the outdoors and always accompanies him on the twilight jaunts when their sturdy Jeep takes them along the back roads and little used trails, where the wild creatures begin to stir as soon as darkness falls.

New Hope for Apache

(From page 26)

Leaders of the non-Indian population of Arizona are also active in helping the San Carlos people improve their conditions. The San Carlos Economic Advisory Committee, composed of outstanding business and professional men of the state, has actively assisted the tribal council in its selection of a course of action. Under the chairmanship of Walter Bimson, president of Arizona's largest bank, this advisory council has maintained close contact with the Stanford Research Institute. The Institute, too, has continued to show interest in the problems of the Apaches even after delivery of its final report.

In the last analysis, however, the future of the tribe depends upon the Indians themselves. For generations the Apaches have actively resisted integration into the white man's way of life. They have attempted to maintain their own culture and social organization in the face of a hostile world. Whether they can long continue to do so is problematical. Their difficulties today are not entirely economic. The sociological problem, the ultimate question of goals, must consciously be settled by the Indians themselves.

If the Apache people decide to follow the path of integration into the white man's world, the Stanford report will be a major help in charting their future. Responsible Apache leaders realize that the white man's way is the path which their people must take. These leaders are providing the guidance which will eventually bring the tribe to a reasonable standard of living in the modern world.



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Foreign Visitors

(From page 17)

nishes a good illustration of this situation. Jorge Santos represented the state forest service of Espirito de Santos, Walter Saur the adjoining state of Minas Gerais. Renato de Silva worked with the National Forest Service in Rio de Janeiro and several visitors have come from the coffee and industrial state of Sao Paulo.

Some of the visitors have been educators, some administrators, and some researchers. Dr. Ogiwara is a Professor of Forestry at the University of Tokyo in Japan and Dr. Fiorenzo Mancini teaches at the University of Florence in Italy. Mr. E. A. R. Banerji is the Joint Director of Agriculture for West Bengal, India. Among the outstanding research scientists has been Mr. Frank Yates of the famous Rothamsted Experiment Station in England.

Foresters, soil conservationists, engineers, hydrologists, and climatologists have not been wanting, and an imposing array of world-renowned statisticians led by the dean of biometricians, Sir Ronald Fisher, has been seated around the conference table at Coweeta. Buddhists, Moslems, Hindus as well as Christians have been represented. The young and the old have shared their experience and training with each other as they continued their learning process.

Our early visitors usually spent only a day or two with us. They had traveled too far too fast, seen too much, and many frankly confessed they had mental indigestion. They wanted to stay longer with us. They wanted to stay longer most anywhere. One group had nick-named the tour manager "Mr. Let's go, let's go" and grumbled mightily as he shepherded them aboard the departing bus. As the trip planners became more experienced they planned a rather complete stay at one or several selected stations, with the whirlwind part of it narrowed down to a "get-acquainted" tour of other pertinent areas. Some of the most successful trainings sessions have been on a four or five-month basis.

What Have They Learned?

We feel that the training of foreign visitors at Coweeta has been primarily technical. Short term visits begin with an orientation talk on the physical plant, basic hydrologic

concepts, and methods of measurement, followed by a short resumé of the research program. The visitors are then taken on a field trip that encompasses the major types of research under way.

Following this presentation, the staff member most qualified in the specialty or specific interest of the visitors usually takes over for a give and take "technical bull session." The free interchange of ideas by American researchers seldom fails to astonish workers from other sections of the world, especially Asia, where each worker holds tenaciously to his pet theories and discoveries lest they be claimed by his colleague.

The training sessions that last from several days to several weeks require a different approach. The orientation tour becomes a more intensive study of the research program and most foreign trainees find that a portion of their visit encompasses on-the-ground training in methods of experimentation and research.

The long training period becomes a true on-the-job training session. For example, J. M. Lopez of the University of Los Andes, Merida, Venezuela, spent five months at Coweeta. He actually carried out short term research projects that led him into research planning, field methods, analysis, and the presentation of results.

Has the technical exchange of ideas been worthwhile or has it only been a momentary interest that is soon forgotten? If the influx of foreign articles that arrive at Coweeta almost monthly from past visitors on soil and water conservation is indicative, the interest has been longlasting. And comments such as Mr. J. J. Duvenage of Southern Rhodesia made are commonplace. Mr. Duvenage felt that his trip was worthwhile if only one idea that he received in America was taken into consideration. A method of laying out contours developed at North Carolina State College which he took back provided his countrymen with an immediate economic saving in one year equal to the cost of his visit.

The impression of America varies with each visitor and his background. A surprising number say, "Americans are quite different from the impression of them that we get at the cinema." Visitors have an opportunity to form a first hand impression of a capitalistic economy in action. They live in and work with

a democratic form of government during their stay in America.

They learn that in America, too, the home is the basic unit for the development of children, the community, and the nation.

One of the most important political implications of the technician exchange program that occurred at the local level may not even have been anticipated by President Truman and his associates when he announced Point IV plans in his inaugural address of January, 1949. Mr. Hirsh-Saint-Paul, a private forester from Central France, brought out the point very clearly. He had

spent six weeks in a short course conducted by the Forestry Department of Michigan State College followed by a bird's-eye-view of forestry activities in the deep South and Southeastern States in company with technicians from other European countries including a rather large contingent from West Germany. Mr. Hirsh's most valuable experience from the trip was the renewal of contact with German foresters and the renewed realization that they had problems and interests in common with him, a condition which he freely admitted World War II had thoroughly obliterated.

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9-55

What Have We Learned?

The visitors at Coweeta have not been alone in being exposed to new ideas and concepts. Our experience has been equally enriched. Example after example has been pointed out where improvement is needed in American techniques and practices, and more important, constructive suggestions have been given as to how these improvements might be instituted.

There have been other benefits. In the vicinity of the Coweeta laboratory, a scene has been repeated time and again which is probably reenacted in each of the forty-eight states. The local people of western North Carolina and north Georgia have been exposed to a first hand lesson in geography and world affairs that would be impossible to duplicate. Foreign visitors who can speak English—and a surprising number can—almost without fail receive one or several invitations to speak at a local church, civic, or farm group during their stay.

Many talk on a specific problem currently facing their country. Frank Loyd was district commissioner at Fort Hall, Kenya, in the heart of the Mau Mau country just prior to his visit in the United States. You can rest assured that Mr. Loyd was unable to leave the rostrum of a local civic club at the appointed hour after he had completed a talk on Mau-Mau tactics.

The service clubs have had programs that could only be matched in much larger cities. A notable occasion occurred in the life of the Franklin, N. C., Rotary Club when Jerphaas De Hoogh presented them with a Rotary flag as a token from his local Rotary Club in the Netherlands. It was truly a gesture of "hands across the sea."

We have learned to respect overseas technicians as individuals. We have learned to respect their schools. We know that the graduates of Dehra Dun, the National French Forestry School, and the British Colonial School at Oxford are top-grade technicians.

The final success or failure of the technical training phase of the current program will not be decided at any individual university, forest, or research station. But if only a small part of our effort with foreign technicians finds an expression in a higher standard of living in their homeland and an appreciation of the democratic system, we feel that our part has been worthwhile.

Bighorns

(From page 27)

plane-wise above the region, constantly searching the rocks with its fiercely golden eyes, then swoops upon its prey, carrying it away in powerful talons to be torn apart by savage beak for the eaglets.

The mountain lion preys on the sheep but rarely, but the bobcat, constitutes a constant menace, and its method of attack is like that of all cats—hide, crouch, spring.

Like all species of wildlife, the Bighorns have enemies in the insect world. Those that range near ranches where domestic sheep are raised, are especially afflicted by the undefeatable tick which burrows into the ears and often renders its victim totally deaf.

So far, the wild burros that roam Death Valley National Monument, have not invaded Joshua Tree National Monument. Farther to the north, these burros eat up the forage faster than the sheep can. They trample the fringe of marsh vegetation such as cattails, around the scarce waterholes, and mess the water with their hooves until it is unpalatable to the sheep.

While they have had a break as regards the burro encroachment, the sheep in the Joshua Tree sanctuary have lately suffered from the long continued drought that shrinks the waterholes, and even more important, curtails the annual growth of perennial shrubs and the low annual herbs on which they depend for food.

In spite of the fact that there has been no open season on Bighorns for about 60 years, man continues to be their Public Enemy Number One. In bygone decades, hunters hid near waterholes to kill for the miners of the area and for themselves, depleting the ranks so drastically that only a pitiful remnant remains of the great flocks that once lived in what is now known as the Lower Sonoran Life Zone.

Fortunately, through the tireless efforts and dogged persistence of an entirely different type of human being, reservations such as Joshua Tree National Monument have been set aside so that Bighorns and other species of sorely persecuted wildlife, may live in comparative security, and where they can a little better than hold their own in a dry and difficult terrain.



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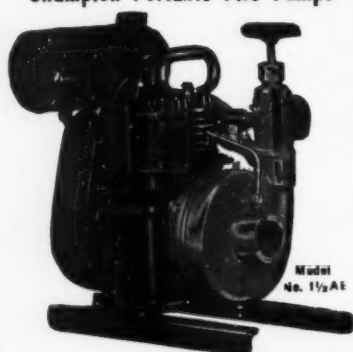
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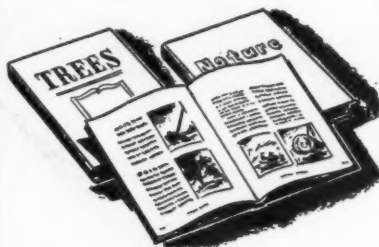
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Reading About CONSERVATION

By ARTHUR B. MEYER

AN *Introduction to Nature* by John Kieran (Hanover House. 224 pp. \$6.) is written for the young or the old who are discovering an interest in birds, wild flowers, and trees. The author points out that many fine handbooks and field guides by experts are available in every field of natural history, but that their very wealth of material may sometimes discourage the beginner. His book, he says, will best serve its purpose if it is not only "an introduction to nature" but also an introduction to other books of greater scope by authors of recognized authority in their fields. The book is a consolidation of three previous books by Kieran: *An Introduction to Birds*, *An Introduction to Wild Flowers*, and *An Introduction to Trees*. Now in one volume the reader can get acquainted with all three. The discussion of each individual bird or plant is accompanied by full color illustration. There are 100 drawings of birds done by Don Eckelberry, 100 flowers by Tabea Hofmann, and 100 trees by Michael H. Bevans. The text is interestingly written with touches of warmth and humor that will hold the reader and should indeed arouse his curiosity and interest him in birds, flowers, and trees.

In Ponds and Streams by Margaret Waring Buck (Abingdon Press. 72 pp. \$3, cloth; \$1.75, paper) is prepared for the young naturalist. It contains many excellent drawings and brief simple descriptions of plants, insects, snails, snakes, frogs, turtles, birds, and small animals that are to be found in wet places.

A regional publication of more than regional interest is *Ohio's Wildlife Resources*, written and edited by Rod Cochran (Ohio Dept. Natural Resources. 210 pp. \$1 paper; \$2.50, cloth). Individual and 75 species of wildlife, not restricted to game birds and animals, are described and discussed by types of habitat where they are found: farm

lands, forest lands, wetlands, lakes and ponds, streams, and Lake Erie. The discussions include farming, forest, and other practices favorable to increased wildlife production. Forty-seven excellent color plates are presented in addition to numerous black and white photographs that supplement the text. The appendix includes detailed check lists of Ohio's fishes, amphibians, reptiles, birds, and mammals. Wildlife and fish management are covered in basic terms; a separate chapter is devoted to fish baits and lures. This is a fine book for the sportsman, the conservationist, and the natural history student.

Another state publication of general interest is *Forests of California*, edited by Edward F. Doler (Calif. Dept. Natural Resources. 147 pp. \$60). Prepared in cooperation with the state department of education, the booklet is for high school use. It will be valuable for teachers as a reference and for others who are wishing to acquire a better understanding of the role played by forests in a state's economy. Forests and forestry are discussed in simple, non-technical language but a wealth of information is conveyed for the student who really wants to get his teeth into the subject. Forestry as a profession is briefly covered. This booklet is an example for other states to follow.

Trees and Shrubs of the Upper Midwest by Carl O. Rosendahl (Univ. Minn. Press. 411 pp. \$6) is useful for either the amateur or the professional botanist as a definitive regional source book. The region (Minn., Wisc., northern Ill., N. Dak. and E. Dak. east of Missouri River) is rich in its variety of trees and shrubs. Some 345 species and 75 varieties, forms, and hybrids are described. In addition to identification keys and written descriptions, 260 illustrations aid in identification. Dr. Rosendahl is a professor emeritus of botany at the University of Minnesota.

George J. Wallace's *An Introduction to Ornithology* (Macmillan Co. 443 pp. \$8) is written for the serious student of birdlife but not necessarily one with a scientific background. Dr. Wallace is professor of zoology at Michigan State College, which school, incidentally, has recently had its name changed to Michigan State University. *An Introduction to Ornithology* is meant to deal with the whole field in a relatively nontechnical and yet academic manner, and to give a quick survey of general principles in nearly all aspects of the subject.

Robert E. Coker says of his book *Streams, Lakes, Ponds* (Univ. N. C. Press. 327 pp. \$6) "It has developed solely from a belief that there are those who would like a better understanding of what goes on in the generally unseen realms beneath the glimmering film topping the still water, the rippling surface of the brook, or the silent winding face of the broad river." He says further, "The effort of the author, it may be said, has been the difficult one of holding a median course between the good reference works and an over-popular and perhaps misleadingly simple presentation of a story that has so many facets."

We often get a little uneasy when scientists start talking about writing for the nonscientific while avoiding the "over-popular" presentation. The framework of fact is too often obscured in a cloud of modification presented for scientific exactitude, and simplicity, after all, is only a relative term. We are glad, though, to note the increasing number of scientists who wish to inform the public, can relate their field to the larger picture of life around us, and can write about it in an interesting and understandable way. Dr. Coker, who is professor of zoology at the University of North Carolina, is one of these. He is also the author of *This Great and Wide Sea*.

Johnny Appleseed: Man and Myth by Robert Price (Ind. Univ. Press. 1954. 320 pp. \$5) undertakes, in a scholarly but readable manner, to unravel unfounded legend and recorded facts about the life of one John Chapman. Born in Leominster, Mass., September 26, 1774, dying on or about March 18, 1885, near Fort Wayne, Ind., Chapman is more widely remembered as Johnny Appleseed. The name to a great many people is almost synonymous with conservation. There really was such a man and Mr. Price has spent quite some time, including a full year's

work with a grant-in-aid from the Library of Congress, in documenting the Appleseed history. The facts he presents are strange enough in their own right so that it is no wonder they have been enlarged on a bit now and then in literature and legend. Johnny Appleseed has become a national myth. Price shows him as an eccentric but not unbalanced man with a passion for apple trees and the faith of the Swedenborgian Church. The legend of Johnny suffers not one bit by being placed on a sound collection of historical, recorded facts that Price uncovered and assembled.

The 1955 *County Agents Directory* (Agricultural Leaders' Digest. 224 pp. \$5) is a fortieth edition. It is a useful book for workers in the conservation field. Not only does it include lists of members of the Extension Service, but also many related agencies, national and state associations, land grant colleges, and other organizations important in agriculture. Considerable reference information and data is also included.

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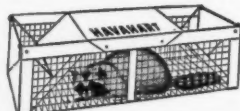
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Please send me free 36-page booklet and price list.

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Pianos

(From page 10)

sales. During the depression the United States piano market fell from \$104,000,000 to \$10,000,000 a year. The manufacturer is enjoying a sellers' market at present, but usually piano selling is a price-cutting, dealer-coddling battle. As a rule dealers do not buy the instruments outright but accept them on consignment. So greatly does the business yield itself to stratagems that one dealer says, "I can recall when the same piano on the same day in the same city sold for prices ranging for \$350 to \$800, depending upon the customers' sales resistance."

Manufacturers share a close relationship with the piano user, for many have their own retail outlets. Where they do not, they sell directly to a local dealer, thus eliminating the middleman. Salesmen are accustomed to doing business at snail-like pace. The average piano sale requires three months from the first sign of interest to the actual purchase. This is partly because the investment is a serious one but also because seventy-five per cent of all piano sales are decided by women.

Before the depression pianos were sold largely to people who wanted them as hallmarks of success. Today, however, they are bought mostly for children's sake, although the buyer keeps one eye on the style and color of the living-room furniture. Hence much of the three months is spent in selecting styles and watching salesmen lay out piano-shaped patterns on the living-room floor. The rest of the time is spent in convincing the buyer's husband that it is worth several hundred or thousand dollars to have his son or daughter play *Melody in F*.

More than eighty per cent of the pianos sold nowadays are "verticals" and "spinets." These are modern names for a small version of the old-fashioned upright. Most of them are mass-produced by a few large companies under a hundred different trade names.

Nine months and the contributions of 400 workmen are required to produce a good grand piano. During this period it undergoes six separate tunings, four action regulations, two tone regulations, and a final microscopic checkup by one of the three inspectors who must pass on every piano before it leaves the factory.

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AMERICAN FORESTS Magazine

CONSERVATION CHARTS

The Conservation Chart that was furnished as a supplement to the April issue of American Forests was received enthusiastically by the members. Many members have ordered extra copies to give to camps, schools or individuals. We have a number of copies remaining on a first-come, first-served basis. The price is 50c each postpaid.

The American Forestry Association
919-17th Street, N. W.
Washington 6, D. C.

In a large plant where quality comes first each vast floor presents a veritable sea of pianos in various stages of manufacture, thinly fringed with a few scattered craftsmen who seem willing to spend the rest of their lives finishing the operation they are working on. Here there are no pressure, no save-time-and-motion studies, and no speed-up slogans.

One reason that a well-built grand piano wins prestige and hearty endorsement from concert artists and symphonic conductors alike is that the manufacturer is willing to spend seven hours on a given operation, such as filing hammer felts, which some other companies would finish in a fraction of the time. The result-

ing tonal difference can be detected only by experts. But when this same care is exercised in every one of the hundreds of operations that make a piano, the differences add up to superiority.

So the next time that you hear Junior playing *Minuet in G* or attend a fine concert where Solomon or Horowitz may be performing a Beethoven concerto, you will no longer be inclined to take the piano for granted. Nor will you look upon it as the product of assembly-line production. On the contrary, the expensive concert grand piano is a finely-made precision instrument designed to satisfy the most discriminating performer and hearer.

River Rats of Utah

(From page 29)

ing skin oil or cream. A must is sun glasses. Recommended are a rain jacket or poncho, and for cool weather before June, a sweater or warm jacket.

The "piece de resistance" of river runners is through the Grand Canyon and the rapids of the Granite Gorge, taken during July from Lee's Ferry to Lake Mead. It embraces a short stopover at Phantom Ranch with its heralded swimming pool in order to replenish the food supplies for the lower part of the run. At this point, those not registering for the entire voyage travel up the rim by mule and their places are taken over by others who have arranged for the remainder of the journey.

Going by boat through the Granite Gorge of the Colorado River is an out-of-this-world experience. The tingling excitement of riding rapids becomes even keener as one progresses. Many of the larger 230 rapids are run with passengers, but occasionally a big one will be negotiated solo by the boatman to make the craft more easy to handle. If a rapid is very bad at any stage of water, the boats may be lined down empty along the edge of the rapid, or portaged.

These boats greatly differ from those used on the San Juan and Glen Canyon runs. The latter, 16 feet in length, carry four or five passengers, three seats being in the cockpit. Both ends are partially decked over to protect food, gear and bedding. They are built fairly light as they are required to ride few heavy waves. The San Juan, devoid of major rapids, has mostly large sand waves

which afford a pulsating, wet, "fun" ride, while on Glen Canyon, the boats roam over only smooth water.

In contrast, for the Grand Canyon, Marine plywood-made boats are of a far more substantial construction, being of a cataract type with watertight compartments fore and aft in which to transport the food and equipment. Measuring 16 feet long and six feet wide at the oar-locks, they weigh 600 pounds empty. They are of the flat-bottomed row boat variety and decked over except for a small cockpit. Especially designed for maneuverability in the rapids, they are always guided down stream stern first so as to face the oncoming waves.

Some people on the Granite Gorge run relish to get about as wet as possible and will lie flat on the stern deck, hanging onto the deck ropes and literally plunging through the big waves head first as they curl over the boat. Only one passenger can ride on the rear deck, and this position is hotly contested for by most. To these "fisheyes-view enthusiasts," the wilder and wetter the ride the better. Although they love to brag about "nothing to it; dry run," they bail out the excess from the bilge with glee. If a rapid does not furnish sufficient wetting, a good water fight can be whipped up with bailing cans between a couple of boats.

At night, the canyoneers camp by the shore—sometimes at the head of a major rapid; at other times, adjacent to a calm stretch of river. Their wholesome and sumptuous food, largely from cans after the first two days, includes a fresh salad almost



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A HOUSING COMMITTEE has been organized for THE AMERICAN FORESTRY CONVENTION, to be held in Jacksonville, Florida, October 3 to 6, 1955. Since all requests for rooms are handled immediately upon receipt, it is recommended that you send in your application as quickly as possible.

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Roosevelt	8.50 to 12.00	Single	5.00 to 10.00	15.00 to 25.00
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307 Hogan St.
Jacksonville 2, Florida

NAMES OF ALL OCCUPANTS	HOTEL (First Choice)	TYPE ROOM DESIRED	DATE & TIME OF ARRIVAL	DATE OF DEPARTURE

SUMMARY

Second Choice of Hotel _____ Third Choice _____

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every night with a refreshing punch at the noon stop. The waters furnish catfish, but at Tapeats Creek, where a cold, clear stream joins the river, these are replaced with large, mouth-watering trout.

Besides the turbulent and uproarious river, there are sites which can be seen only by those who take this water highway to Lake Mead: turquoise blue water of the Little Colorado spilling into the muddy red Colorado; Vasey's Paradise, a campsite where out of an undiluted limestone wall a spring gushes forth; Red Wall Cavern, where an armada of great size could be moored with ease. One also notes these: narrow-

How About Swimming the Colorado?

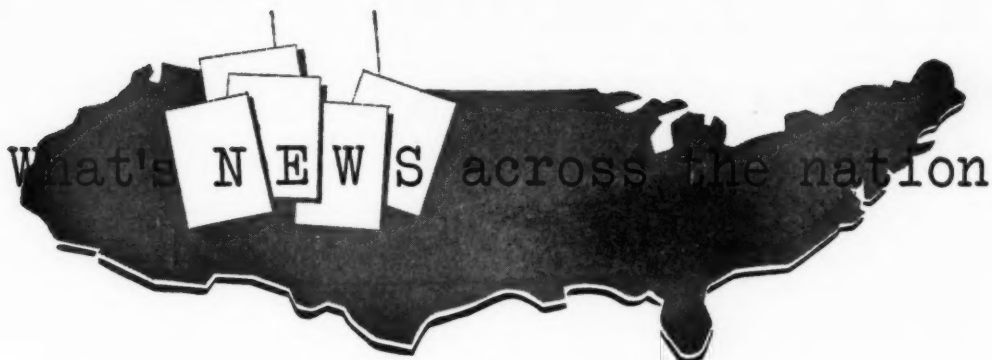
Mr. Woodson's idea of cruising down the Colorado River sounds fine to us, but if you are looking for a really different way to spend your vacation how about shooting the rapids in person — which is exactly what Bill Beer and John Daggett, two California insurance salesmen, did last spring. In fact they were the first men ever to swim the 279 miles of the turbulent Colorado between Lees Ferry and Lake Mead, where the rapids are among the most dangerous in the world.

In an article for *Collier's* magazine, Beer reported their harrowing adventures during the 26-day swim down this rapid-strewn river. They had never set eyes on this river before and had to rely on book knowledge and survey maps; and their only training for the swim had been testing water-proof equipment in an apartment house pool. One look at the churning rapids made them realize that their training had been most inadequate, but they plunged in and became the first men to conquer the Colorado River.

On second thought, maybe Mr. Woodson's cruise idea is a less strenuous way to spend your vacation.

ing river canyon upon the approach to the Grand Canyon; Desert View Tower a mile up on the South Rim; bountiful Indian ruins at Nan-koweap.

"All is not thrills and excitement on the Grand Canyon, or, for that matter, on the San Juan and Glen Canyon," advised Frank Wright, head of the Mexican Hat Expeditions. "Many consider the trips from a relaxing standpoint and for a complete respite from a busy changing world. There are long, quiet stretches where everyone just sits and watches the canyon walls of ageless history drift by. One is struck with awe and reverence."



THE SPEED WITH WHICH THE MINING LAWS WERE AMENDED HAS INTRIGUED many AFA members—prompts one to comment "... The sweep of the whole business is somehow reminiscent of the days of T. R." The signing of the measure by President Eisenhower at the summit conference at Geneva also exerted appeal. Apparently most AFA members agree with the President's statement that this "... is one of the most important conservation measures affecting public lands that has been enacted in many years."

WITH A SUPPLEMENTAL APPROPRIATION OF \$300,000 APPROVED BY Congress in the closing days of the past session to activate the new law, members of AFA have been asking, "How does the Forest Service go about the task of putting this new law to work?" The President's signature was scarcely dry on the new law when the characteristic cry of "Let's Go!" came rolling in from Forest Service regional offices. A visit to the South Building last month also revealed that the home office is moving on the problem with characteristic vigor. The new law was signed by the President on July 23. On July 27 and 28 two carefully prepared memos went out to all western regions to acquaint personnel with what the new act does and even more specifically with what it does not do. These memos show while the Service is moving on the projects with dispatch that it is also proceeding with caution. The Forest Service says, "It is important that forest officers be familiar with the provisions of this new law and be able to advise the public accurately on what the law does and what it does not do. It is also very important that the Forest Service use this new authority without antagonizing legitimate miners. Above all, we must be certain that we are not overzealous and do not overstep our authority with respect to mining claims."

WHAT SPECIFICALLY DOES THE NEW LAW DO? This is a question a number of AFA members have asked and it is of interest that the Forest Service spells this out very carefully in its initial memo to field personnel. First of all, the new act removes common varieties of sand, stone, gravel, pumice, pumicite and cinders from the purview of the mining laws. This means that these materials can no longer be used as the basis of a "discovery" for a mining claim. As regards claims located subsequent to July 23, 1955, these shall not be used for any purpose other than prospecting, mining and development. Moreover, the United States has the right to manage and dispose of the vegetative surface resources and to manage other surface resources. However, a word of caution is added here by the Service. "It is expected," the Forest Service states, "that the cutting of timber on mining claims usually will be undertaken as part of our normal timber sale operation. The law provides that timber cutting shall be such as not to endanger or materially interfere with prospecting, mining or processing operations or uses reasonably incident thereto. We must avoid all appearance of deliberately scheduling timber cutting on mining claims in order to 'get there first.'" In other words, while the Service does not propose to relinquish any authority as provided under the act, it is insisting that its personnel "play fair" in the administration of the law.

(Turn to next page)

IN REFERENCE TO CLAIMS LOCATED PRIOR TO JULY 23, 1955, the Forest Service points out "there is no change in the status of such claims unless and until the United States takes action for a determination of surface rights. This procedure involves advertising, hearings, and determination by the Bureau of Land Management on the validity and effectiveness of claims. All claims declared valid under the procedure retain all rights which they previously had to the surface and surface resources. Claims which are either defaulted or where the claimant waives surface rights, or which are not declared valid by the Bureau, fall into the same category as claims located subsequent to the enactment of the law and the United States has the right to manage and dispose of the vegetative surface resources. Finally, the rights of mining claimants to patent claims are unaffected by the new law.

IT IS THE MATTER OF CLAIMS LOCATED PRIOR TO JULY 23, 1955, that will require the most careful handling under the new law. To start the ball rolling, the Service proposes to start action on only four areas in coming months to determine surface rights on existing claims. Areas selected will be comparatively small and representative in the sense that they will embrace a majority of problems that will be countered on larger operations later. Department attorneys and other experts will work closely with Service personnel on these four initial projects since it is here that the pattern for future procedure will be set. The objective here is to clear up the question of surface rights on all mining claims located prior to 1955 on all areas where this is necessary for good administration, within the next 10-year period. The objective for the fiscal year 1956 "is to apply the procedure to at least four selected areas in order to gain experience and develop a standard operating procedure. We want to staff up, get men trained and start field examinations on additional areas in all western regions so that the program can be going forward with a full head of steam before the beginning of next fiscal year."

FIVE KEY POINTS ARE STRESSED BY THE HOME OFFICE in considering the initial four projects. These are: 1) That the area should be a working circle, a small ranger district or a river drainage which does not have more than an estimated 1500 mining claims. 2) A ranger who knows the area thoroughly will be invaluable in the preliminary examination and preparation for the public notice. (Advertisements to acquaint claimants with the fact that the claims are to be studied.) 3) The action should be urgently needed for good administration, and it would be desirable if the area could include some old abandoned claims, some valid operating claims, some new uranium claims, and some claims with valuable timber which would be included in a sale if the United States established rights with respect to the surface resources. 4) Mineral examiners must examine all claims for which verified statements are filed by the claimants. This examination will "need to be sufficient either to recognize the validity of the claim or to go to hearing on those believed to be invalid. Hence our ability to perform this job with mineral examiners available must be considered in selecting areas." 5) Hearings will not start until at least 150 days have expired after the first publication of the notice. Mineral examinations must be made prior to the hearings. All recommendations for the original four project areas are to be made by September 1.

TRAINING AND SELECTION OF KEY PERSONNEL WILL ALSO REQUIRE considerable time and effort in this initial organizational effort, the circulars reveal. Western Forest Service regions will assign to one man the staff responsibility for administering the new law and this man will be freed of other duties. Each region will also require one or two additional mineral examiners this year, and extra forest staff and ranger assistance on the forests and districts where the procedure will be tested. The new mineral examiners will receive on-the-job training from experienced mineral examiners in the Denver, San Francisco, Missoula and Portland offices. The General Counsel's office plans to assign additional attorney assistance to the western regions to handle the work. A meeting of all personnel involved will probably be called in Denver within the next several months.

(J.B.C.)

Letters

(From page 4)

Let the Reader Judge

EDITOR:

Mr. Oehlmann's comments on my article, "Crisis in Our Parks," starts out by alleging inaccuracies and then saying, "without attempting to refute every inaccurate statement of Mr. Netboy, I shall confine the discussion to a few important errors in direction."

This is an ancient dodge. I can assure the reader that there are no inaccuracies in my article because I have taken the precaution—as in everything I write—of checking my facts by observation or consultation with the experts, although naturally the opinions and conclusions are my own.

I defy Mr. Oehlmann to find one specific inaccurate fact.

As for the gist of his piece, it is the same old line issued by the concessionaires for years, passing the buck for failure to provide adequate and decent accommodations at Yosemite, Yellowstone and other popular parks on the New Deal, Ickes, Krug, the banks, etc. etc.

There is no question that many concessionaires, in the less popular parks and monuments, are having a difficult time, would like to sell out, and are performing a public service at a sacrifice. One cannot, however, shed tears for the big concessionaires in parks that attract over a million visitors annually. They have good leases and make lots of money while the public suffers. I'd be willing to get a few shares of their stock myself.

Finally, as if to refute totally Mr. Oehlmann's arguments, his piece is illustrated with a picture of the old cabins at Yosemite. These are the prevailing ones, and I can assure the reader that there are hundreds in much worse condition at Yellowstone.

Let the reader judge. If he is one of the millions who has had personal experience with park accommodations at Yellowstone or Yosemite he already knows.

Anthony Netboy
Portland, Oregon

EDITOR:

... I greatly appreciate the consideration given in presenting my letter as an article. I feel it had a prominent place in the magazine and an eye-catching title, all of which offers your subscribers an opportunity to read the concessionaires' side of the story.

H. Oehlmann
Executive Vice President
Yosemite Park and Curry Company

Feature Photo Doubted

EDITOR:

That photo of R. E. Tucker in the July issue of a loblolly pine growing in a dead stump wouldn't be a hoax or "fixed," would it? For my money I'd have to see it to believe it, especially since the stump is not well rotted or split. ...

Frank Makara
Counsellor at Law
235 Broadway
New York 7, N. Y.

Editor's Note—Mr. Tucker cordially invites Counsellor Makara to visit him and his celebrated loblolly at Jonesboro, Louisiana.

WHAT'S THIS TREE?

Can you identify this tree by its bark?

It is thin, orange-brown and seems to spiral around the trunk. Deep fissures break the bark into narrow, interlacing ridges. Of considerable commercial importance this tree is found principally in Eastern Canada, the Northeastern states and the Lake states. See answer at bottom of page.



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Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10.



Photo submitted by Winifred G. Hammond, Berkeley, California

This fallen redwood tree appears to be a never dying tree as at least five redwoods are growing from its trunk. Few trees are able to reproduce by sprouting, but this picture is positive evidence that redwoods reproduce profusely by sprouts.



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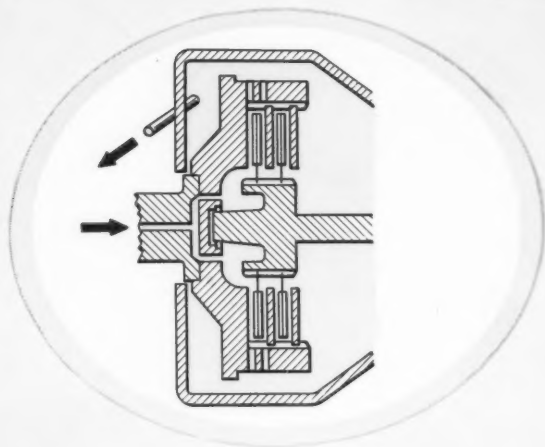


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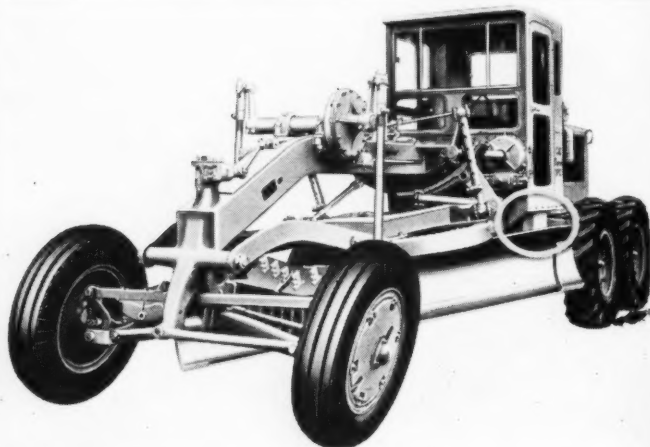
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